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CODES!
Fuso Trucks, 8100-9113
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The National Locksmith®

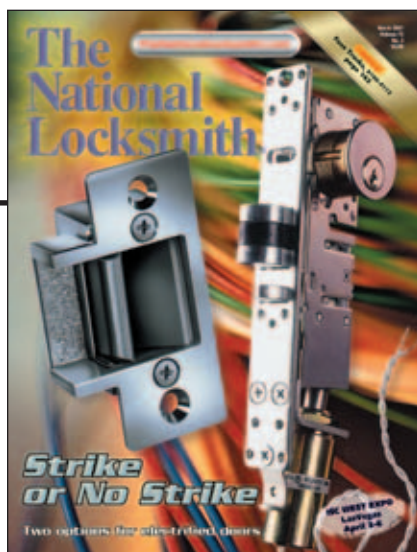


Strike or No Strike

Two options for electrified doors.

ISC WEST EXPO
Las Vegas
April 3-6

On The Cover...



To strike or not to strike? Today there are more choices than ever when adding electrified locking devices in a variety of applications.

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COMMENTARY



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Combat Pay and Remember When...

In the jobs I wouldn't touch with a ten foot pole category...

In the first week of February, a train derailed in the town of Red Deer, Alberta Canada. This caused a toxic spill of anhydrous ammonia which hospitalized at least twenty five people. It also caused town officials to order the evacuation of over 5,000 residents, according to reports in the Calgary Herald News.

"This is not how I planned to spend my weekend," said Joni White, sitting at an emergency shelter in the Red Deer College cafeteria Saturday afternoon.

One man, still hospitalized was seriously injured after coming into close contact with the gas, and he was found hours after the spill. During the search, rescue teams combed Red Deer evacuating residents.

At homes where no one answered a locked door, a locksmith opened the door so

the teams could search for deaf, sleeping or incapacitated people. I hope they issued a biohazard suit to the locksmith, along with the standard issue pick set.

Remember the days of Commemorative Keys?

Back in the day, the auto makers would release beautifully distinctive keys to go along with their shiny new cars.

Here's a peek back into the past at some of these lovely old keys. They just don't make 'em like they used to.



Marc Goldberg



Have questions? Want free technical help?
Free Locksmith Forums!
www.TheNationalLocksmith.com

Marc Goldberg
Publisher

Mango's Message

If you do automotive service, you know the impact that transponders and On Board Diagnostic systems have had in recent years. Making it difficult, expensive and in some cases, impossible to service. Last year the California Legislature passed "Senate Bill 1146" that may ultimately affect the locksmith's ability to service and diagnose vehicles equipped with immobilizer units. This Bill is currently only applicable to California automotive service providers, but as many of you know, what legislation occurs in California, eventually sweeps across the country in one form or another. It may sometimes be as a watered-down version, or enhanced version, but as some form thereof nevertheless. SB 1146 can, and may, be used as the model for other states to follow.

Senate Bill 1146 was lobbied for by the California Automotive Task Force, made up in part by such associations as the Automotive Aftermarket Industry Association, the California Automobile Wholesalers Association, and the Automotive Parts Rebuilders Association.

Just as the locksmith industry, members of non-dealer aftermarket automobile entities have also struggled with obtaining tools, information, support and manufacturing rights with regards to late model vehicle On Board Diagnostic (OBD) systems. In an effort to force the disclosure and access to such OEM On Board Diagnostic information, SB 1146 was drafted. The primary thrust of this Bill applies to California pollution and emission controls, but does include diagnostic systems, which of course includes the ignition system as stated in SEC. 2 (2) and the anticompetitive effects, SECTION 1. (d).

I have cherry picked the immobilizer relating sections of SB 1146 due to space limitations. For a complete copy of Senate Bill 1146 go to: <http://info.sen.ca.gov/> click on Legislation and type in SB 1146.

Senate Bill No. 1146

[Approved by Governor September 30, 2000. Filed with Secretary of State September 30, 2000.]

SB 1146, Burton. Motor vehicles: pollution control devices.

This bill would require the state board, for all 1994 and later model-year motor vehicles that are equipped with on board diagnostic systems and that are certified in accordance with specified test procedures, to adopt regulations that would require motor vehicle manufacturers to take specified actions to make available information relating to motor vehicle emissions monitoring and testing, and diagnostic systems, as prescribed. The bill would provide for the imposition of reasonable business conditions as a condition of the disclosure of information determined to be a trade secret, and would authorize a court to issue a protective order concerning that information.

On Board Diagnostic Legislation

The bill would require the executive officer of the state board, if he or she obtains credible evidence of a motor vehicle manufacturer's failure to comply with any of the requirements imposed by those regulations, to issue a notice to comply to the manufacturer and would require the manufacturer to submit a compliance plan, as specified. The bill would require an administrative hearing to be conducted by a hearing officer if the manufacturer contests the notice to comply or the executive officer rejects the compliance plan within a specified time period. The bill would require the motor vehicle manufacturer to correct the violation within 30 days from the date of a specified finding by the hearing officer or be subject to a civil penalty in an amount not to exceed \$25,000 per day per violation.

The people of the State of California do enact as follows:

SECTION 1. The Legislature hereby finds and declares all of the following:

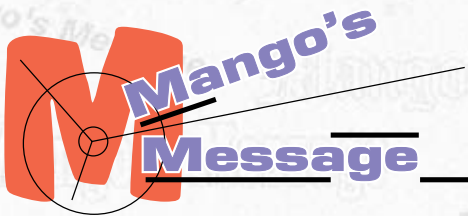
(c) Recent emissions standards adopted and implemented by the State Air Resources Board for motor vehicles manufactured after 1993 have resulted in the development by

**Continued on
page 8.**



**Greg Mango
Editor**





Continued from page 6

vehicle manu-facturers of "on board diagnostic computers," that interface with the many component parts of a vehicle's emissions control system. Essential service, repair, and parts information and tools for interfacing with a vehicle's on board diagnostic computer system may not be readily available to independent automotive repair technicians and facilities. Accordingly, consumers may be restricted to having the service and repair of faulty emissions-related components of a motor vehicle performed only by franchised dealerships, and consumers may be also forced to purchase replacement parts manufactured solely by or on behalf of the vehicle manufacturer. This restriction of consumer choice and options is contrary to the history of automotive repair, which saw the advent of independent repair technicians and facilities and independent aftermarket parts manufacturers as healthy market competitors to vehicle manufacturers and their dealerships.

(d) The withholding of essential service, repair, and parts information and tools by vehicle manufacturers from independent automotive repair technicians and independent aftermarket parts manufacturers may result in improper and needlessly costly repairs that could also endanger the public and result in anticompetitive effects harmful to the best interests of the state.

(e) It is the intent of the Legislature in enacting this act during the 2000 portion of the 1999-2000 Regular Session to assure and stimulate competition in the service and repair of motor vehicles, including emissions systems, and in the availability of parts for those repairs. Further, it is the important policy of this state to encourage competition so that consumers have choices available to them in the service, repair, and parts used in the service or repair of motor vehicles.

SEC. 2. Section 39027.3 is added to the Health and Safety Code, to read:

39027.3. (a) "Bidirectional control" means the capability of a diagnostic tool to send messages on the data (bus) that temporarily overrides the module's control over a sensor or actuator and gives control to the diagnostic tool operator. Bidirectional controls do not create permanent changes to engine or component calibrations.

(b) "Covered person" means any person engaged in the business of service or repair of motor vehicles who is licensed or registered with the Bureau of Automotive Repair, pursuant to Section 9884.6 of the Business and Professions Code, to conduct that business, or who is engaged in the manufacture or remanufacture of emissions-related motor vehicle parts for those motor vehicles.

(c) "Data stream information" means information that originates within the vehicle by a module or intelligent sensors including, but not limited to, a sensor that contains and is controlled by its own module and transmitted between a network of modules and intelligent sensors connected in parallel with either one or two communication wires. The information is broadcast over communication wires for use by other modules such as chassis or transmissions to conduct normal vehicle operation or for use by diagnostic tools. Data stream information does not include engine calibration-related information.

(d) "Emissions-related motor vehicle information" means information regarding any of the following:

(2) Any original equipment system, component, or part associated with the powertrain system including, but not limited to, the fuel system and ignition system.

(g) "Enhanced diagnostic tool" means a diagnostic tool that is specific to the original equipment manufacturer's vehicles.

SEC. 4. 43105.5. (a) For all 1994 and later model-year motor vehicles equipped with on board diagnostic systems (OBD's) and certified in accordance with the test procedures adopted pursuant to Section 43104, the state board, not later than January 1, 2002, shall adopt regulations that require a motor vehicle manufacturer to do all of the following to the extent not limited or prohibited by federal law (the regulations adopted by the state board pursuant to this provision may include subject matter similar to the subject matter included in regulations adopted by the United States Environmental Protection Agency):

(1) Make available, within a reasonable period of time, and by reasonable business means, including, but not limited to, use of the Internet, as determined by the state board, to all covered persons, the full contents of all manuals, technical service bulletins, and training materials regarding emissions-related motor vehicle information that is made available to their franchised dealerships.

(2) Make available for sale to all covered persons the manufacturer's emissions-related enhanced diagnostic tools, and make emissions-related enhanced data stream information and bidirectional controls related to tools available in electronic format to equipment and tool companies.

(3) If the motor vehicle manufacturer uses reprogrammable computer chips in its motor vehicles, provide equipment and tool companies with the information that is provided by the manufacturer to its dealerships to allow those companies to incorporate into aftermarket tools the same reprogramming capability.

(6) Provide to all covered persons information regarding initialization procedures relating to immobilizer circuits or other lockout devices to reinitialize vehicle on board computers that employ integral vehicle security systems if necessary to repair or replace an emissions-related part, or if necessary for the proper installation of vehicle on board computers that employ integral vehicle security systems.

Senate Bill 1146 just may be the catalyst that opens the OBD service providing market for all associated parties. Making it more affordable, accessible and practical for all.

It would behoove us all, including our national association (ALOA) local associations, manufacturer and distributor associations, to align and befriend such entities as the Automotive Aftermarket Industry Association, Automobile Wholesalers Association, and Automotive Parts Rebuilders Association, to support future initiatives in other states. This would not only help strengthen the allegiance towards OBD tools, information, support and manufacturing rights, but also alleviate the financial burden of introducing and supporting such a campaign. It would also assure that locksmiths are included and recognized ~~as~~ an "independent automotive repair technician engaged in the business of service

March 2001

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Image is Everything

It was a Friday afternoon and I let a couple into their vacation unit when their key stopped working. The woman wanted to upgrade the existing hardware which was a Schlage F series entry knob and above that a Simplex 6000 knob. They needed two hands to open the door. One to turn the key-in-knob and the other to turn the knob for the Simplex. I later returned to talk about replacing the hardware.

During our discussion the woman said to me. "You don't look like a locksmith!"

"Well what is a locksmith supposed to look like?" I replied not missing a beat.

"Well their hands are supposed to be dirty and you're supposed to be wearing dirty clothes. But you, you look like you're an engineer or a teacher. You look professional." She responded.

You can see from her comments what her perception of a locksmith was. My \$65 opening has since turned into a \$500 - \$700 upgrade in hardware as well as changing what this couple thought of locksmiths! Image is everything.

Ed L.
E-Mail

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

Ours is a Sad Industry... We need Help!

What a bunch we are! All you have to do is look at the posts in The National Locksmith or Locksmith.Com and see locksmiths searching for information and help from other locksmiths that have "Seen," "Done," or "Heard" about something they need to know. Whatever help they can get is fantastic and greatly appreciated and they feel like great people helping each other. This all sounds good and may even get some tears of joy from some folks, but unfortunately, it is not such a great thing when compared to the computer industry.

I have three Compaq Laptops, 1 Sony Vaio Laptop, and three AMD-K6 Desktop computers. When I need to learn information, get parts or support from the manufacturers of my equipment, no matter how old is it; I have been provided with more than enough information. A quick free download from the Web gets me, screen savers, photos, diagrams, upgrades, information on how to get anything and talk to anybody in the world almost instantly. I needed a users guide for one of my laptops, downloaded from the company's web site into my acrobat reader and printed 188 pages in less than 10-minutes.

I needed a hard to get harddrive for another of my laptops; went to Ebay Auctions, \$45.00 and two days later I got it. I needed support and step by step guiding to install and configure the new hard drive. One of the live forums posted it, I printed two pages and the job was done. I get a lot of information, parts and support almost instantly from the World Wide Web.

Yesterday I ordered from my locksmith supplier (no name here)



four (4) 7/16" Chicago Cam locks double sided key No: 3174. They didn't have it in stock and would take six weeks to get, at \$6.94 each. What a joke!

You want an exploded view of a pocket Corbin Russwin old lock? Fat chance. Need an exploded view and instructions on how to get the ignition serviced on a '97 VW Jetta? Yeah right. Need a key blank for a U-HAUL padlock or Chinese padlock that's not made here? O.K. sure!

With seven computers of my own, which I know by heart, I think I have just the necessary experience to start a part time business. I have access to parts, information and support from all the manufacturers, so what else do I need? Maybe it will get me out of the locksmithing business. I'll miss it, but heck, I can do without it. Or maybe all we need is readily available parts, information and support from the lock manufacturers, just like in the World Wide Web and it would be worth staying for. Anybody care to comment?

Francisco Fuentes
E-Mail

TNL

Security Café

**DROP IN FOR
TOOLS, TECHNOLOGY
& EQUIPMENT**

Marks USA Facilities Lock Guide



Marks USA will provide free on request a Facilities Lockset Guide introducing the "Survivor" key-in-lever series, "Defender" deadbolt series, and "Protector" mortise lock series. The guide assists the institutional user by informing the reader of the lockset features, which will satisfy the requirements of institutional facilities for both design and maintenance.



All locksets feature a lifetime mechanical warranty, satisfy ADA requirements, and are UL Listed for 3-hour fire rating. Typical users of the locksets include School Systems, Housing Authorities, Hospitals, Army Corps of Engineers and the United Nations.

Ultra-Compact PowerVerter from Jensen Tools

These new ultra-compact, lightweight inverters power notebook computers, camcorders, VCR's, TVs, and all small appliances and electronics. The convenient cigarette-lighter plug taps the power of any automotive battery. The all-metal housing withstands the often-rugged conditions found at many job sites. It has low battery voltage alarm/shutdown.



New DORMA GSR Coordinator System

The new GSR coordinator system from DORMA Architectural Hardware provides correct sequential closing of pairs of doors equipped with overlapping astragals, panic devices, flush bolts and a cylindrical lock, or other door hardware assemblies that require one door to close before another. The GSR coordinator holds an active door open at any point in its closing cycle until the inactive door closes completely and triggers release of the active door.

The frame-mounted coordinator features an aesthetically pleasing streamlined design and requires a minimum ceiling clearance of only 1-5/8". Individual track assemblies create a versatile unit for openings 55" to 110" wide. The GSR coordinator can be used with two of DORMA's barrier-free door closers: the unique cam-and-roller TS93 closer or the narrow projection 8900 series closer.



The Power-Verter includes a built-in cooling fan to prevent over-heating. It stores easily in a briefcase or glove box.

Von Duprin Introduces Impact Mortise Lock

The Von Duprin Impact™ 94/9575 mortise lock device provides the same great features as the popular Impact exit devices, but in a single-door solution. The new Mortise Lock Device uses a modified 7500 lock that was developed to work specifically with the Von Duprin Impact device. The unique Mortise lock provides the same backset, finishes, trim and mechanical performance of the concealed rod Impact devices.



The unique hold-in feature, which maintains exit device retraction until the door closes and relatches; a device projection that is expected to stand up to expected abuse from cart and pedestrian traffic; the

same electronic latch retraction features as their current Impact EL devices. It has the same advantage of being electronically controllable by a remote switching device, an access control system, or an automatic fire alarm system.

Jet Introduces New Key Blanks

Nine new key blanks have been introduced by Jet in their Catalog Supplement No. 498.19. They include BL1-NP Bell, CLP-NP Clopay, EZ1 LSDA, M1-RV



Master, CO-KW1 Kwikset keyway - Corbin bow, M1-IMP Import type Master Locks, K7-NS Arrow large bow, 275RF-NS Sargent 5 pin RF keyway, 275RG-NS Sargent 5 pin RG keyway.

New Key Holder from Monarch



Monarch is producing a key holder for the tubular style keys such as those made by Ace, Greenwald, Baton, ESD, and LAL. Competitively priced against other styles, the compact lightweight unit is easy to handle and ideal to relieve strain associated with the repetitive use of the key, easing collection and stress on the collector.



Medeco 15 Series Tubular Deadlatch

The Medeco 15 Series Heavy Duty Tubular Deadlatch is now available to complement Medeco's full line of high-security deadbolts. Featuring a Grade 1 deadlocking latch, this new product prevents shimmying and loading of the bolt with a credit card or other similar tool. It automatically deadlocks when the bolt enters the strike, making it ideal for use on pool and security gates. The tubular deadlatch features a stainless steel latch bolt and choice of a 2-3/8" or 2-3/4" backset. Exterior



SECURITY CAFÉ

Continued from page 12

assembly is completed with a rotating security collar while the single unit interior assembles with two 1/4 inch 20 mounting bolts. The 15 series deadlatch is designed for simple installation. The deadbolt is completely reversible for left-handed or right-handed, standard or reversed bevel doors between 1-5/8" and 2-1/4" thick. Plus, door operation is identical for all functions - a standard 2-1/8" crossbore and one-inch edge bore holes. The versatile deadbolt is available with Medeco Biaxial high security cylinders or KeyMark small format interchangeable cores.

SKT Wafer Reader from Lockmasters

Lockmasters announced the release of the SKT Wafer Reader. The SKT Wafer Reader is designed to read door locks on most domestic and import vehicles that use standard wafer tumblers. The SKT Reader is an exceptional tool for new key generation without the need to remove or disassemble locks.



This tool is especially effective on all early and late model GM, Ford, Chrysler vehicles as well as Honda, Mazda, Toyota (except split wafer), Mitsubishi, Hyundai, VW, Geo, Nissan and more. Unlike other lock reading tools, this single kit is all that is needed to read locks on most vehicles; eliminating the need to purchase separate readers for the varying automotive keys systems, or update with each model year release.

Master Lock Commercial Grade Hasps

Master Lock Company now offers a complete heavy-



duty hasp line: a straight bar hasp (No. 730) for common flush closing door and gate applications; a 90 degree bracket hasp (No. 731) ideal for vending, warehouse and other common double-door systems; a 90 degree angle bar hasp (No. 732) for tight corner and sliding door security; and a circular two piece hasp (No. 770) that surrounds Master Lock's solid steel round padlock (No. 6270), to prevent forcible attacks.

These hasps are constructed of hardened steel for maximum security against physical attack. Nos. 730 and 732 feature concealed mounting hardware and are designed without traditional hinge pins, to further thwart thieves. All feature a corrosion resistant chrome finish. These hasps complement Master Lock's comprehensive line of hasps which include massive solid iron hasps with boron alloy staples (Nos. 723 and 724); single and double hinged hasps to fit most corners and angles (Nos. 720, 721 and 722); and general purpose hasps (Nos. 703, 704 and 706).

S&G Comptronic ATM Access Management System

Sargent & Greenleaf has introduced a



new ATM management system that provides superior security for ATM deployers and service providers. The A-Series ATM Access Management System offers two distinct modes of operation: Bank Mode and Service Mode operation. The Lock Management software creates unique one-time-use operation codes to perform various functions, including Bank Mode enable or disable, ATM access and audit trail download. These unique electronic Touch Memory Keys, carried by each user for identification, are disabled when the lock is opened and only enabled for the next operation once the lock is secured. Failure to properly secure the lock disables the user's Touch Memory Key and requires management intervention to re-enable.

The A-Series features a sophisticated auditing system that records in detail all activities for each system operator, user, Touch Memory Key, lock and ATM. Each lock can store up to 400 time/date/duration events and combine the activities of both Bank and Service Mode operators. Each Touch Memory Key stores information on its 100 most recent events. All system operations are controlled by multiple levels of hierarchy and can be reviewed through the detailed auditing system.

Dortronics Magnetic Lock with Door Status Monitoring

Dortronics Systems, Inc. has introduced a feature-enhanced version of the company's popular 1000 Industrial Magnetic Lock. The new model can be equipped with a door position switch option that monitors whether a door is open or closed. The door position switch interfaces with an access control system or intrusion alarm panel for easy status



verification. Dortronics' 1000 Series Industrial Magnetic Lock provide 1200 pounds of holding force for professional interior or exterior access control applications.

Installation of the unit is quick and easy using the adjustable mounting plate supplied for use on out-swing doors. The TJ-1000 comes with an angle lock mounting plate and an armature "Z" bracket for in-swinging door installations - any 1000 Series lock can be converted in the field for in-swing doors. An optional conduit fitting is available for gate installations. In addition, the 1000 Series operating voltage is 12 or 24 V DC field selectable and requires only 170ma at 24V to maintain the rated 1200 pound holding force.

New Padlock Size from New Standard

New Standard announces the new 1 3/4" (Model 1750) padlock joining it's 2" (Model 2000) body size which accepts Schlage interchangeable core (large format) cylinders, shackle diameter is 5/16" offering the



Industries smallest padlock for this cylinder system. Featuring New Standard's Patented Non-Key Retaining Convertible system, which is field selectable for key retaining or non-key retaining function. A low cost key retaining only model is also available.

New Standard invented the dual-function padlock in

SECURITY CAFÉ

1991 and offers the largest selection of models for widely used cylinder systems. Shackles are available in Hardened Steel, Stainless Steel and Brass in 9 lengths.

PRO-LOK AO27 M.C.O.T. Tool

This handle pull tool is a modified version of the original M.C.O.T. Multi Car Opening Tool. This tool is designed to access and manipulate pull handles on vehicles that have stiffer handle springs than most, which require more pull strength than the original M.C.O.T. may be able to

provide. Some models, such as certain BMW, Mercedes and Land Rover have stiff pull handles such as this. This tool provides enough pull power to lever these stiffer handles completely rearward to unlock the door easily.

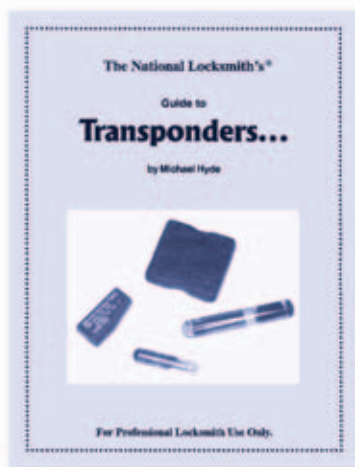
Lockmasters ITL-2000II™ Automatic Dialer



Following in the footsteps of the well-known ITL-2000, the ITL-2000II Automatic Dialer offers safe technicians and locksmiths unparalleled quality and ease of operation in automatic safe opening. The ITL-2000II includes a new, easier to use single piece magnetic base for fast, efficient and slip-free mounting. The new updated software now includes the ability to perform either left-right-left or right-left-right dialing. **TNL**



TNL's Guide to Transponders



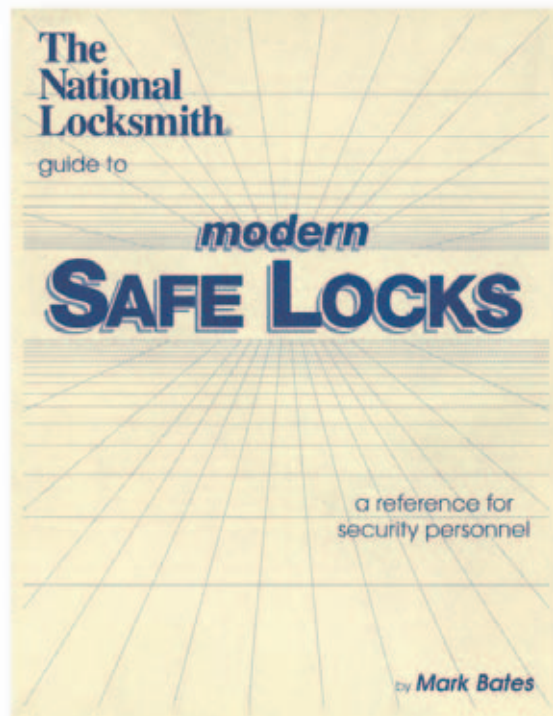
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#TS - 2001



Modern Safe Locks



You always wanted to make
money servicing safes?

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#MSL - 1

Trine 3234 Electric Strike

a matter of
space
and **time**

Sometimes good things truly do come in small packages, especially when the “good things” turns out to be less time and more money.

With space becoming more and more of an endangered species in many door frames, most locksmiths are all too often faced with having to spend an inordinate amount of time adapting frames and strikes to fit into the cramped space available. What should be a relatively simple installation becomes a long, sometimes complicated operation of cutting frames, re-drilling holes and offsetting strikes. It seems that in many installations the larger the strike, the more time it takes to install and therefore the smaller the profit.

The two products that locksmiths really sell to their clients are time and expertise. Expertise comes down to how well the end result of the time spent masters the problem that they were called in to solve in the first place. Time, on the other hand, is the one commodity that the professional has at his disposal. Time really does translate to money - time saved on a job equals more money eventually earned.

The typical installation involves a 4-7/8” standard strike. Unfortunately many doors are not set-up to accommodate these large strikes. Often locksmiths arrive on the job to face a 115.3 ANSI standard frame. The solution is a re-prepping of the frame to wedge in the large strike, often in an offset configuration, a difficult, time-consuming installation.

Smaller strikes that meet the ANSI 115.3 standard can help locksmiths cut down on installation time and hassles. Answering this need is the new 3234 electric strike line developed by Trine Access Technology that features the smaller footprint that installers have been looking for. *(See photograph 1.)* The Bronx, NY company’s strike is compact in size, with a strike plate that measures only 2-3/4”, which meets the ANSI 115.3 standard perfectly. *(See illustration A.)*

The 3234 electric strike is a centerline-installed mechanism, which needs little or no frame alterations to fit. Whereas, previously available strikes that

Continued on page 18

1. The new 3234 electric strike line developed by Trine Access Technology.

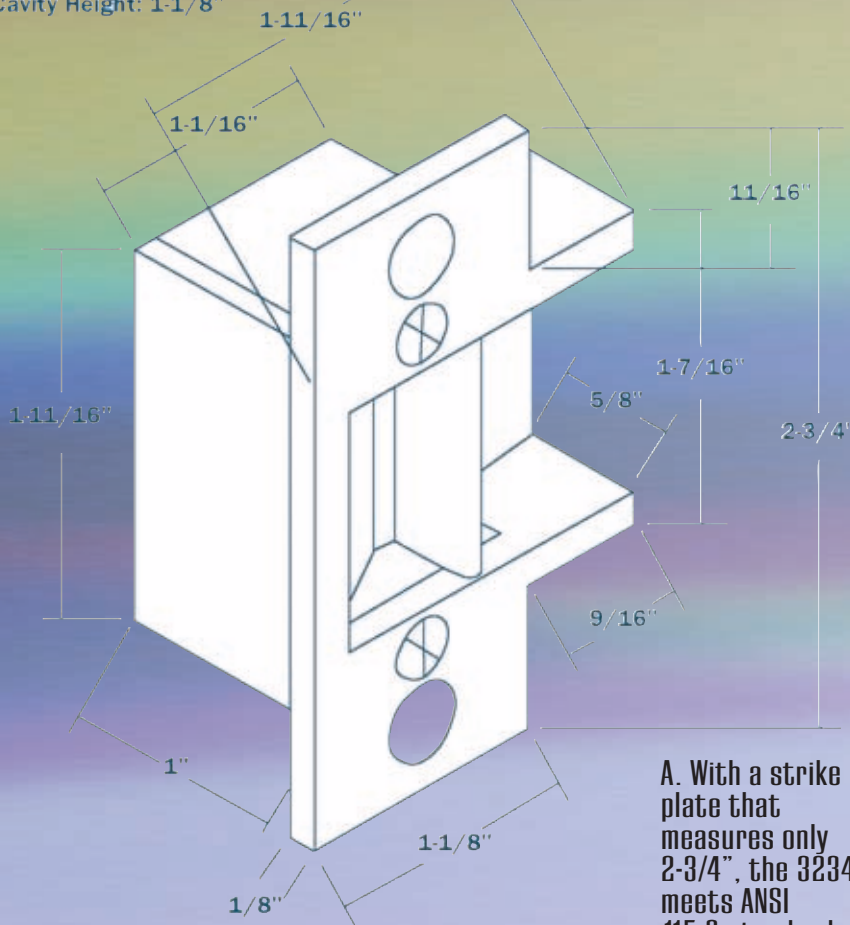
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3234 Electric Strike

Cavity Width: 5/8"

Cavity Depth: 3/8"

Cavity Height: 1-1/8"



A. With a strike plate that measures only 2-3/4", the 3234 meets ANSI 115.3 standard perfectly.

fit into standard ANSI 115.3 frames preps would often have to be installed offset and block one of the screw holes in the process.

This product is very innovative to the market because nobody makes a centerline mechanism on a 2-3/4" faceplate. The backset of the mechanism is the big selling feature. It's the smallest strike in the world because it only has a total overall backset of 1". That is probably more important in many applications than the 2-3/4" faceplate. This is the only 1" backset electric strike on the market today. The 3234's total mechanism dimensions are just 1-11/16" x 1-11/16" x 1".

While the 3234 strike is ideal for metal and masonry-fill frames, Trine has not forgotten the wood door and developed a sister strike to the 3234 for wood doors. (See photograph 2.) The 3234W electric strike carries a 3-3/4" faceplate for wood frames. (See illustration B.) This slightly larger faceplate allows locksmiths to install this centerline mechanism and still have enough wood on top and bottom to be able to drill straight back to mount the strike. Hitting hollowed out spots when trying to mount older offset mechanisms was often a problem with wood frames.

Both strikes are solenoid driven and feature a micro-plunger design. You would be hard-pressed to find a solenoid with the power this one has in its size. That's where the micro-technology comes in. The levers and all the



2. The 3234W electric strike for wood doors.

moving locking parts on the 3234 and 3234W are made from 17-4 stainless steel, which is aircraft grade. The lever's dowel pins are fabricated from A-2 tooling steel and the cover is also stainless steel. The small mechanism touts 1200 pounds of holding force. They are available in both 12 and 24-volt intermittent-duty DC models. These are Fail-Secure strikes.

Both strikes come in US standard finishes. The faceplates are available in satin chrome, bright brass, satin brass and dark bronze.

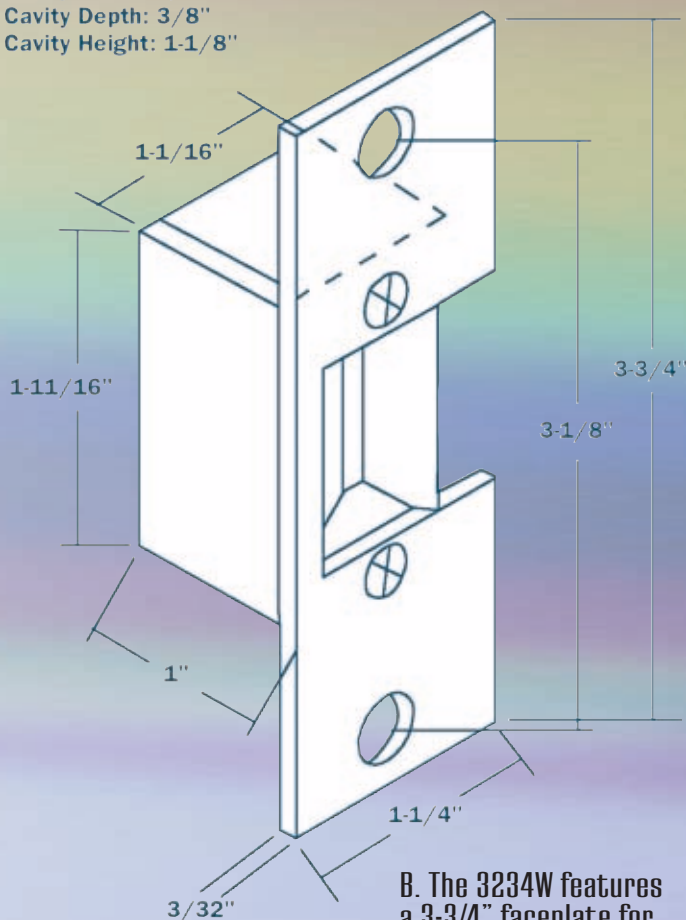
The strikes have a 3/8" cavity depth that allows latch bolts of 1/2" throw to fit, based on a 1/8" door gap. The strikes are ideal, because of the faceplate size and cavity depth, for cylindrical bore locks. This matches the trend among door frame manufacturers to build the majority of doors to receive cylindrical locks. It allows people to install cylindrical locksets and still be able to install a standard strike with the prep without having to re-prepare it for a 4-7/8".

3234W Electric Strike

Cavity Width: 5/8"

Cavity Depth: 3/8"

Cavity Height: 1-1/8"



B. The 3234W features a 3-3/4" faceplate for wood doors.

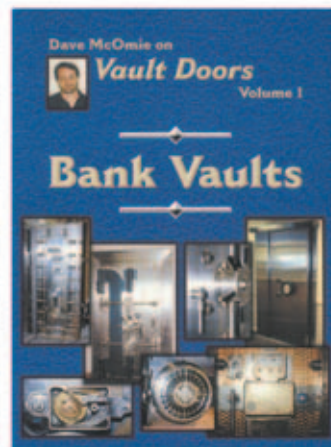
These space-saving strikes are ideal for a number of specific applications. Among these are aluminum doors, such as those found on most storefronts. Often these storefront doors are constructed with only a 1-1/2" or 2" channel. Of course, there is always a thick piece of glass that also has to share that narrow channel, which doesn't leave much room for the strike.

Another door fabrication that is well suited for the 3234 is masonry-fill frames. The benefit of having a centerline mechanism as opposed to an offset mechanism is realized when you have to chop the cement out of the prep area. It's very difficult in a little prep to get a 1/2" or bigger chisel into a 2-3/4" hole and chop the cement out downward beyond the cutout to get an offset mechanism to fit. Therefore, the centerline mechanism is an easier mechanism to get to fit in cement or even in a wood frame for that matter. The small centerline strikes are also ideal for thermal insulated doors.

"It's great for applications where you have a shallow depth in the frame - limited space. The majority of backsets on electric strikes are 1-1/2", so the 3234 is 1/2" smaller. This product provides a strike that will fit into a 2-3/4" prep with very little frame modification. All you are doing is cutting for the lip on the faceplate.

For more information contact: Trine Access Technology, 1440 Ferris Place, Bronx, NY 10461. Phone: (718) 829-6405; Fax: (718) 829-6405; E-mail: customerservice@trineonline.com; Web: www.trineonline.com. Circle number 310 on Rapid Reply. 

Dave McOmie on Vault Doors Vol. 1 & 2



These openings can be a nightmare,
but not when you bring Dave
McOmie along with you
on the job.

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The SentryLok E-Latch™

by Tom Lynch



1.
The SentryLok
Model 9200.

We have all heard the phrase "Time is money" before. Some live by it while others struggle with it. There is no doubt that in today's society, each second, minute, hour and day presents new opportunities along with new technologies. All these emerging developments have an impact upon our time management. For some there is a perception of more personal time allotted, for others it may be a decrease in aggravation associated with a specific task. Either way, there appears to be an inverse reaction that we often overlook during economic times that present such changes in our personal time and our workplace.

Many improvements may offer a wonderful answer to reducing a repetitive task down to a fleeting nano-second, but it also increases the opportunity to do more. In fact, the addition of many new innovative products and services have not totally eliminated a person's busy schedule, but rather increased it by allowing one to do even more. How often do you say, "There's not enough hours in a day!" This is due to our increased productivity via new ways of thinking and doing. The reality is that we reduced our time management on one level, while increasing it on another.

In our industry there have been numerous innovative products and ideas that have helped the locksmith's time management and profitability. These developments provided faster installations, retrofits, repair and higher profits because of the speed at which they were achieved in relation to the fees that could be charged. One such product is the SentryLok E-Latch™ Model 9200. (See photograph 1.)

The E-Latch™ is an electrified lock designed specifically for narrow stile aluminum doors. Just drop it into a standard Adams Rite prepped door and wire it up. The E-Latch provides the locksmith the ability to rapidly install an access control component into an Adams Rite preparation without the need for additional installation devices, cutouts or modifications. (See photograph 2.) It also eliminated the need to install either an electric strike or electromagnet to provide electronic access control.

The E-Latch is based upon the time proven Adams Rite design which is found in virtually every narrow stile aluminum commercial storefront door installed today. (See photograph 3.) If you install electric strikes, electromagnetic locks, or any other electrified locking device, the SentryLok E-Latch™ will drastically reduce your installation time on aluminum doors.

The E-Latch™ has been tested at 300,000 cycles and possesses all the same features

E-Latch™ Specifications

Power

12 or 24 VDC

Cylinder Backsets

31/32", 1-1/8" and 1-1/2"

Dimensions

1" wide, 8-1/4" long

1-5/8" depth (31/32" backset)

1-25/32" depth (1-1/8" backset)

Faceplates

Flat, radius, and beveled.

Mortise Cylinder

Standard 1-5/32" diameter mortise cylinder.

Latch Throw

5/8"

Door Prep

Retrofits existing cutouts where standard mechanical latch is replaced.



2. This
E-Latch
installs
into an
Adams
Rite
preparation.

Continued from page 20

found in standard deadlatches. The standard latch holdback feature allows for free access from both the secure and safe sides of the door. Voltage selection is either 12 VDC or 24 VDC. Backsets are available in 31/32", 1-1/8" and 1-1/2".

When compared to the alternatives (electric strikes and electromagnetic locks) the E-Latch™ is far and away the easier installation. The E-Latch™ is also fail secure from the outside, but can allow normal emergency egress by use of standard paddles or levers. It maintains a secure centerline installation reducing door bowing or flex effect.

In virtually any application where an aluminum storefront door is used that utilizes the standard cutout, you can rapidly accomplish an installation. It is now possible to install every component needed for an access control system within the door! Once you install the E-Latch™, you can also install a card reader, Dallas chip reader, or other controlling device directly on the face of the doorframe next to the E-Latch™. This keeps everything compact and neatly contained within one wire run.

The following is one situation where the SentryLok E-Latch™ proved to be invaluable:

A problem arose in a condominium complex that involved a handicap resident. The problem was a typical one in which the challenged resident needed to have access capability from her wheelchair by use of an automatic door opener. This complex had aluminum storefront doors using a frame mounted electric strike tied into an intercom system that was used heavily. For the automatic opener to work, the door would have to either be left unlocked or wired into the existing intercom system strike.

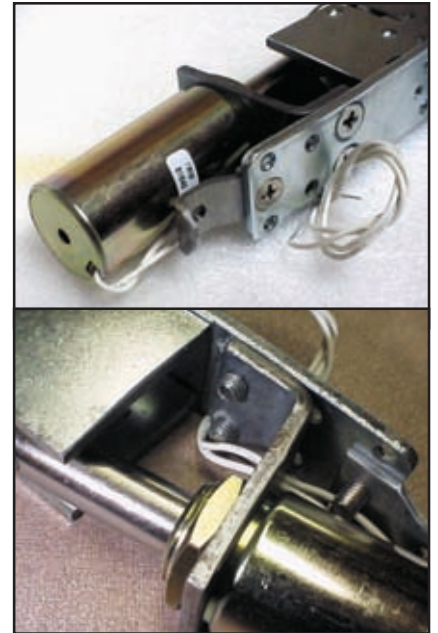
The other consideration was the element of crime and vandalism in the neighborhood. This required that the doors maintain a secure latch at all times, and exterior poles with activators would be at risk. Considering all these factors, an optimum solution was needed to satisfy all concerns. E-Latch™ was introduced into the formula.

By considering the use of the existing frame mounted strike, which received a great deal of use, the potential for a failure would create an inconvenience or possible hazard for

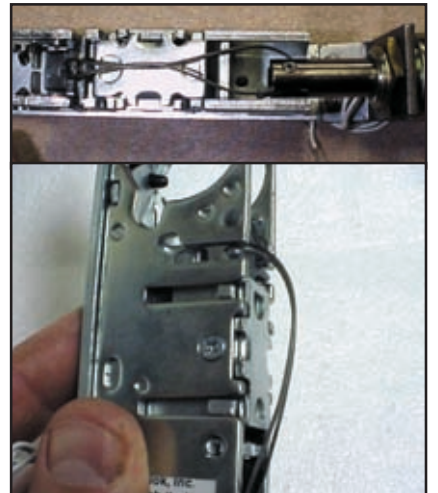


3. The E-Latch is based on the Adams Rite design found in virtually every narrow stile aluminum door.

the wheelchair bound resident. Also, the decision to inject new wiring into an existing intercom system is not a welcomed choice. Once you touch it, you own it! By choosing the E-Latch™ many features were achieved that integrated well. The simple replacement of the latch allowed for an exclusive, proprietary use by the handicapped resident. At the same time it continued to allow other residents to utilize their existing keys and egress as normal with the interior paddle.



4. The solenoid and how it is held by two screws to the face of the latch.



5. A small cable withdraws the latch when the solenoid is activated.



6. Remove the existing Adams Rite faceplate.



7. Loosen the mortise lock setscrews.

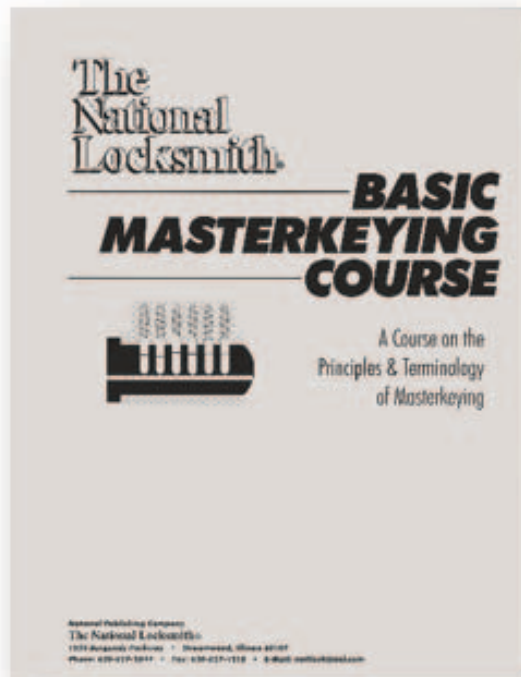


8. Remove the lock mounting screws.



9. The Adams Rite lock is removed.

Basic Masterkeying Course



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#MK - 1

The E-Latch™ consists of a solenoid located at the bottom of the chassis. *Photograph 4*, shows the solenoid and how it is held in place by two screws to the face of the latch. Connected to the actual latch is a small cable, which will withdraw the latch when the solenoid is activated. (See *photograph 5*.) On earlier units released, this posed a small problem if the backside of the chassis rubbed against the wall of the aluminum channel. It caused either a lazy latch retraction or none at all. This dilemma was quickly remedied by adding a mounting tab on the top of the unit allowing it to be edge mounted.

Lock Installation:

This device installs quickly and easily. First remove the existing Adams Rite faceplate. (See *photograph 6*.) Then loosen the mortise lock setscrews (see *photograph 7*) to remove the cylinder and then remove the lock mounting screws. (See *photograph 8*.) At this point the Adams Rite lock can be removed. (See *photograph 9*.)

The E-Latch comes with a template that can be applied to the edge of the door to mark the drill point for additional mounting screws. (See *photograph 10*.) The template is designed for a bottom mounting screw for the attached tab. (See *photograph 11*.) However, I prefer to use two mounting screws at the 12 and 6 o'clock position. By simply reversing the supplied template you can mark for the additional tab. A helpful trick is to use a glue stick to hold this template in place. No router is required reducing unwanted noise, debris and cleanup.

To make the SentryLok operate electrically, you need to add a power supply wire. Drop a power supply wire through the top of the aluminum door frame channel and through the mortise lock hole. (See *photograph 12*.) Passing this wire through the door frame is very easy.

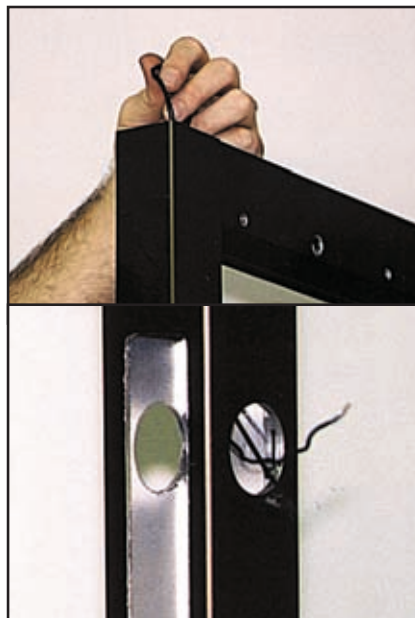
Now install the E-Latch and pull the white solenoid wires through the same mortise lock hole. (See *photograph 13*.) The black or black & red power supply wires are then tied or crimped together with the white solenoid wires by wire nuts (see *photograph 14*) or "Dolphin B" connects, otherwise know as "Chiclets." (See *photograph 15*.) These connector aides are invaluable if you are planning to get involved in access



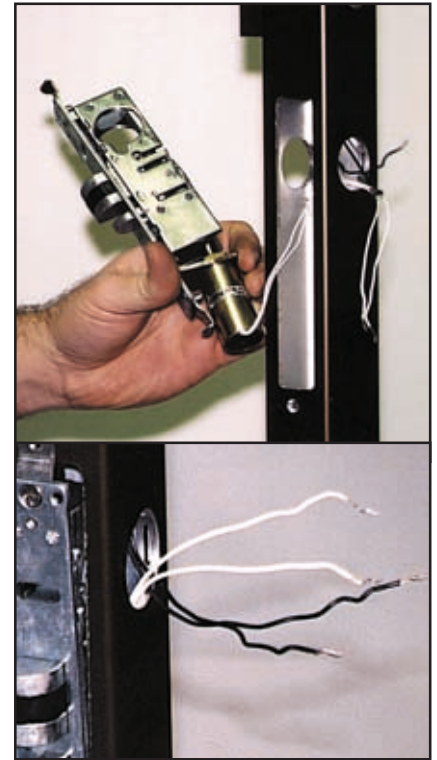
10. The E-Latch comes with a template to mark the drill point for additional mounting screw locations.



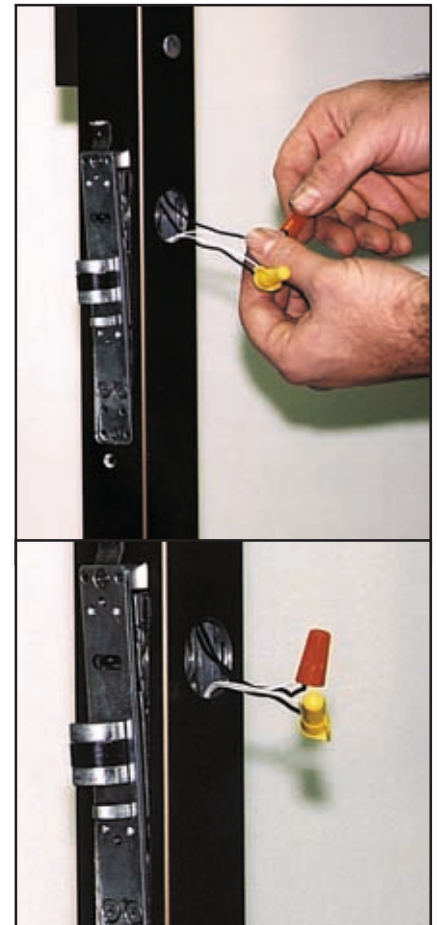
11. The template is designed for a bottom mounting screw for the attached tab.



12. Drop a power supply wire through the top of the aluminum door frame channel.



13. Install the E-Latch and pull the white solenoid wires through the same mortise lock hole.



14. The power supply wires are then tied or crimped together with the white solenoid wires.

Continued from page 24



15. Dolphin B connects, otherwise know as Chiclets.



16. An inside view of the door channel.



17. Drill a hole in the door frame to pull the wires through.



18. Pull the power supply wires through the hole and door loop.



19. Mount the door loop base plate and secure cover.



20. Drill a hole in the header to pull the wires through.



21. Connect the lines and mount the door loop base plate.



22. The Model 492 Power Minder.

control and you should always have them available in your toolbox. An inside view of the door channel allows us to see just where the E-Latch wires should be positioned. (See photograph 16.)

By simply adding an armored door loop, you can continue the wire over to your power source, or in this case it was tied to a DoorAid door unit.


To add an armored surface mounted door loop, drill a hole in the door frame to pull the wires through and two additional screw mounting holes. (See photograph 17.) Pull the power supply wires through the hole and door loop. (See photograph 18.) Mount the door loop base plate and secure cover. (See photograph 19.)

Since the power supply lines will most likely run through the frame header, drill a hole in the header to pull the wires and two screw mounting holes. (See photograph 20.) Connect the lines and mount the door loop base plate to the header. (See photograph 21.)

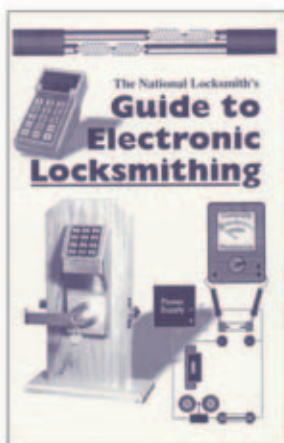
The power lines are then pulled to a 12 or 24 VDC power supply and keypad, momentary open switch or other controlling device to retract the latch and the installation is complete.

A newly released product by SentryLok is the Model 492 Power Minder, which is a power module that is placed in line between the power source and the lock. (See photograph 22.) It allows the E-Latch™ to function in a continuous mode. In addition this module provides the flexibility to use either an AC or DC power supply.

As you can see, the SentryLok E-Latch™ Model 9200 makes it possible for many locksmiths to quickly enter into access control hardware installations without wasting time on troublesome frames, or wasting money on unnecessary jigs, templates and power tools. The speed at which a locksmith can install one of these units is equal to the same time it takes to unload all the needed equipment to install a conventional strike. Leaving you more time to make additional sales, increasing your bottom line.

For more information on the E-Latch™ contact: SentryLok, 1930 Case Parkway North, Twinsburg, Ohio, 44087. Phone: 800-883-1116; Fax 330-425-1834; Web: www.Sentrylok.com; E-mail: info@sentrylok.com. Circle number 201 on Rapid Reply. 

Electronic Locksmithing



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#EL - 1

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The National Locksmith.

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#FRM - 1

ELECTRIC STRIKE NEWS

HES 5300 SERIES LOW PROFILE ELECTRIC STRIKE

The 5300 low profile electric strike is designed for locksets up to a 3/4" throw. The unit's unique symmetrical design, combined with a low profile and interchangeable faceplate options make installation effortless - a feature customary to all HES electric strikes. Like its sister the

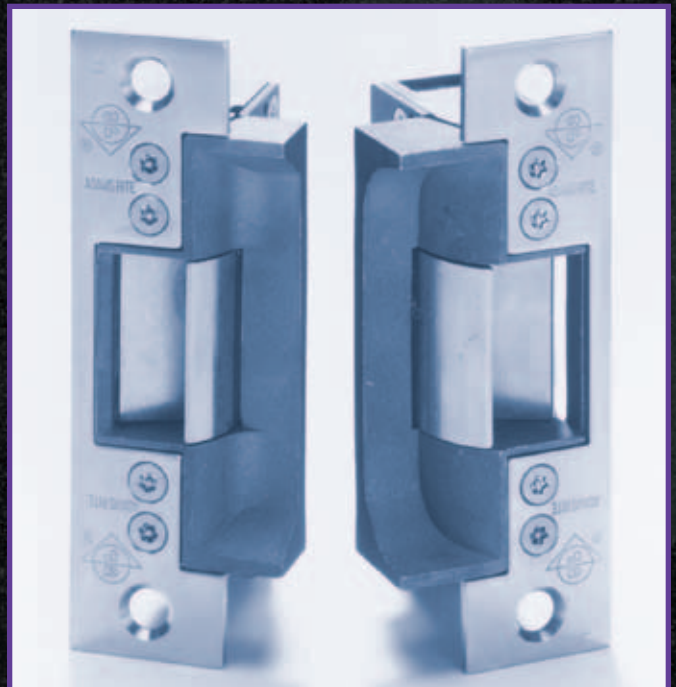
5000 Series, the 5300 is strong (1,500 lbs. holding force), compact (1-3/8" depth), and well-suited for heavy-duty applications. It features an internally mounted solenoid, plug-in connectors, is non-handed, and is field selectable Fail Safe or Fail Secure.

To compliment the 5300, HES also offers many of the innovative options and accessories that have made their strike lines so popular. These include 2 "Press Fit" stackable lip extensions, 4 faceplate options, the 2005 SMART Pac™, and the 2001 Pl

ADAMS RITE MANUFACTURING 7240 AND 7270 ELECTRIC STRIKES

Adams Rite Manufacturing has combined all of the innovative characteristics associated with its top selling

Continued on page 32



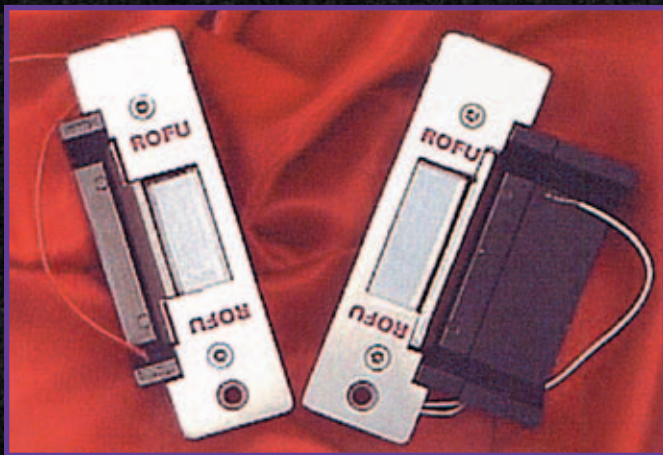
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electric strikes in two new fire-rated versions, the 7240 and 7270. This latest addition to the electric strikes product line, features one-ton jaw strength, a one million cycle-tested solenoid and the choice of popular low voltages for those application requiring a 3-hour fire rating. The 7240 strike is for key-in-knob latches with a 5/8" x 1-7/16" x 9/16" strike opening; while the 7270 is for mortise latches that have a 3/4" x 1-7/16" x 3/4" opening.

Both products are fire-rated in fail-secure mode for hollow steel jambs and are UL Listed for burglary resistance. Faceplate on each of them measure 1-1/4" x 4-7/8". Like all Adams Rite products, the 7240 and 7270 were designed to make installations faster and more flexible. The fire-rated strikes are not only compatible with latches from virtually all top manufacturers, but are compact, reliable, sole performers that are aesthetically pleasing as well. This latest electric strike addition from Adams Rite is another way in which the customer driven company is serving its customers nationwide.

THE ROFU 2400 ELECTRIC STRIKE

ROFU International has made major improvements to the old stand-by of the security industry, the electric strike. The patent pending 2400 series is field convertible from fail-safe to fail-secure or back in 10 seconds or less by moving two external screws. This strike works even when subjected to 35 pounds of back pressure.

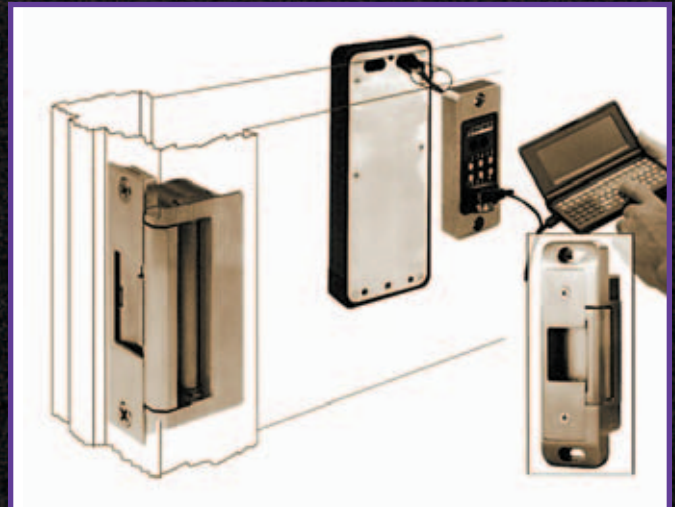


Uni-body construction, an investment cast keeper, stainless steel faceplate and shallow overall depth are some of the additional features. Optional items are a lip extension and LCM (latch and cam monitoring).

LOCKNETICS PROGRAMMABLE STAND-ALONE STRIKES

Locknetics Security Engineering has introduced the industry's first stand-alone, computer-managed series of strikes. These strikes are battery-powered for easy installation without the need for additional wiring. Equipped with Locknetics' CM controller, they accommodate up to 150 user codes and/or TouchEntry data keys, with an optional audit trail of the last 100 events.

Optional expanded memory is available for up to 500 users/events. Locknetics' 9100BP and 9200BP strikes feature a universal design similar to the company's hardwired 9100 and 9200 electric strikes: the 9100BP works with cylindrical and mortise-style, non deadbolt locksets; the 9200BP is designed to work with virtually any rim exit device.

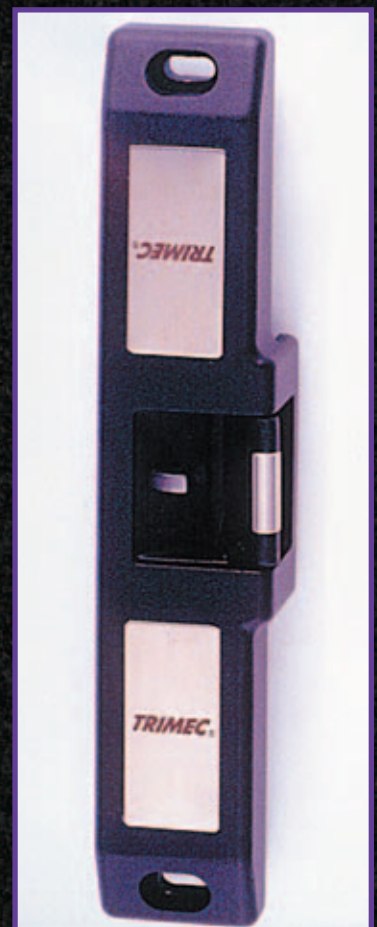


WORLD'S SMALLEST ELECTRIC STRIKE FROM TRINE

Trine Access Technology offers the extraordinary new 3234 strike which contains the features of larger strikes in a compact 1-11/16" x 1-1/16" x 1" overall strike body. In addition to 1200 Lbs. holding force, it features the smallest backset (1") in the industry, stainless steel latch and locking mechanism, and will accept a 1/2" latch bolt. It also meets ANSI standards. The 3234W strike is recommended for wood applications.

TRIMEC LOW PROFILE RIM EXIT STRIKE

The ES260 is the first low profile Rim Exit Electric Strike available on the market requiring less than a 1/2" frame depth in which to install, making it easy to install back to back Rim Exit Strikes on a mullion or in other narrow frame applications. With an investment cast stainless steel body and face-plate, the ES260 is a unique roller keeper, which reduces friction between the panic bar latch and the electric strike, offering a longer life for both devices. The ES260 is field reversible from fail safe to fail secure, has continuous duty solenoid, requires just 88mA of current at 24 VDC, and comes with a 5-year warranty.



TNL

The 2001 Mitsubishi Montero

Part 1



by Michael Hyde

1 The newly redesigned Mitsubishi Montero for 2001 has a sleeker body shape and more legroom. The 2001 model also has an active transponder system. The transponder system is what I call a level 2 - locksmith capable, special equipment required.



Car Opening:



2 The vehicle uses cable lock linkage instead of the more common metal linkage rods. The vehicle can be opened a couple of ways, from wedging the door and using a tool like the Jiffy Jack from Tech Train or a Ultra Jack from High Tech Tools. I however used a different method that works for me. I selected a simple horizontal slide linkage tool and a window wedge. I inserted the tool down into the door about 2" from the window edge.



3 The latch assembly has an opening where the cable comes into the latch and attaches to a lever in the latch. You can drop your slide tool down on this area and bounce it around a little and check for movement on the inside lock button. You will know when you have hit the right area to unlock the vehicle.

Ignition Lock:



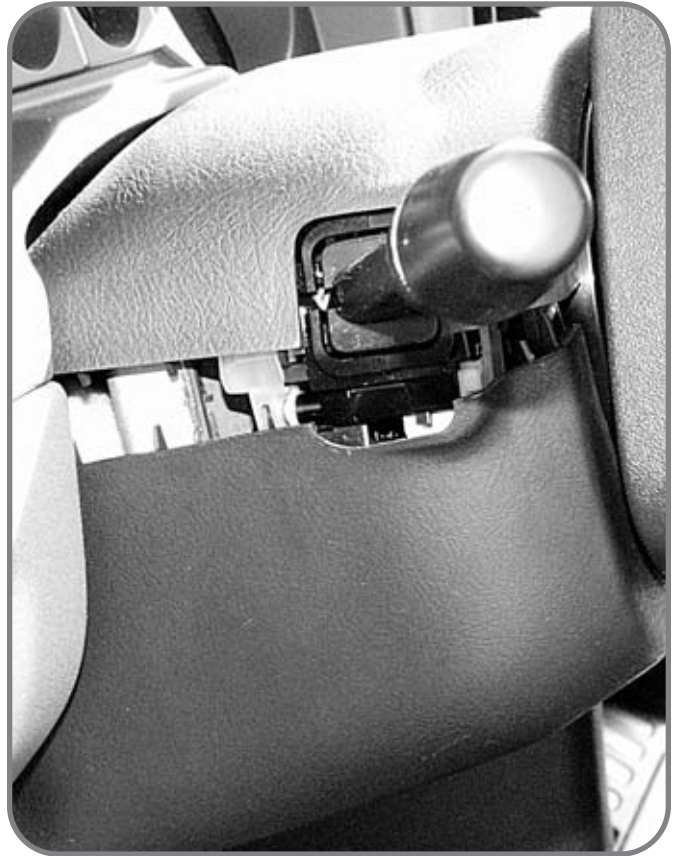
4 In recent years Mitsubishi has been redesigning their ignition locks to more of a Toyota style design.

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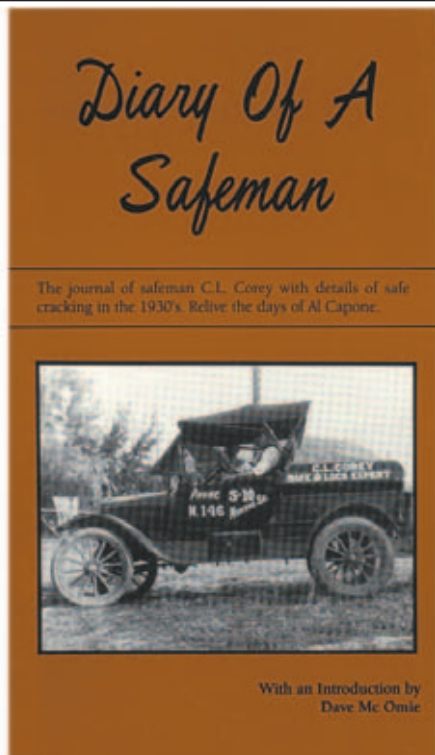
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5 The ignition lock is an active retainer type and can be removed with a working key. First remove the 3 Phillips screws on the bottom side of the column shroud assembly.



6 Gently unsnap the plastic two-piece shroud on the left side working your way around to the right side.



Diary Of A Safeman

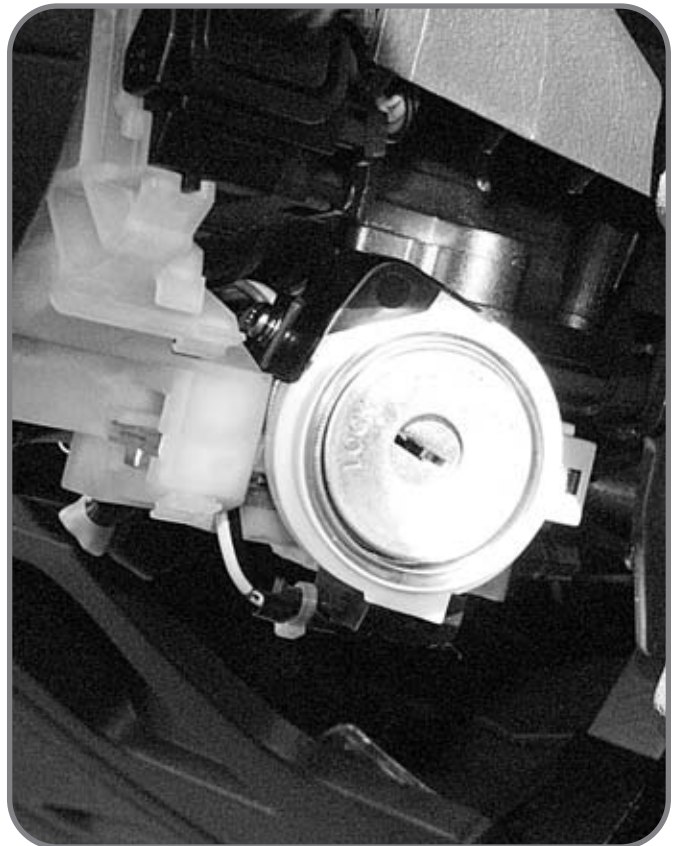
This book is a real gem...the private safe diary of old time safecracker C.L. Corey.

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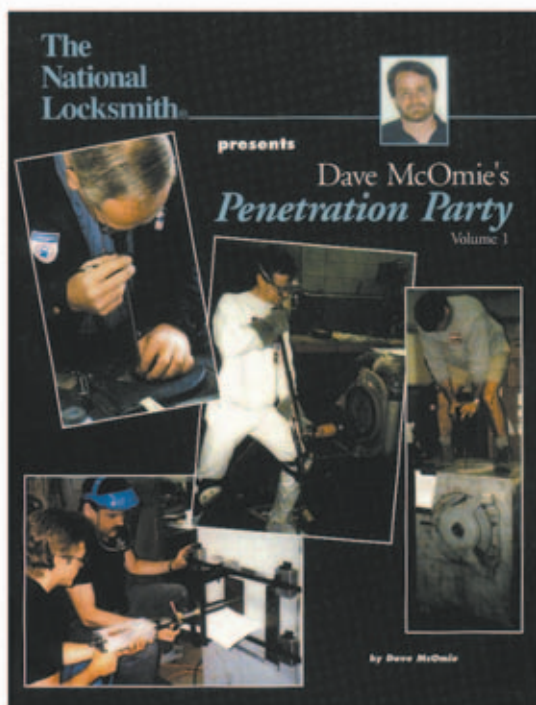


#DIARY

7 Remove the lower half of the shroud.



8 There is a transponder induction ring (coil) around the lock cylinder. The induction ring does not need to be removed.



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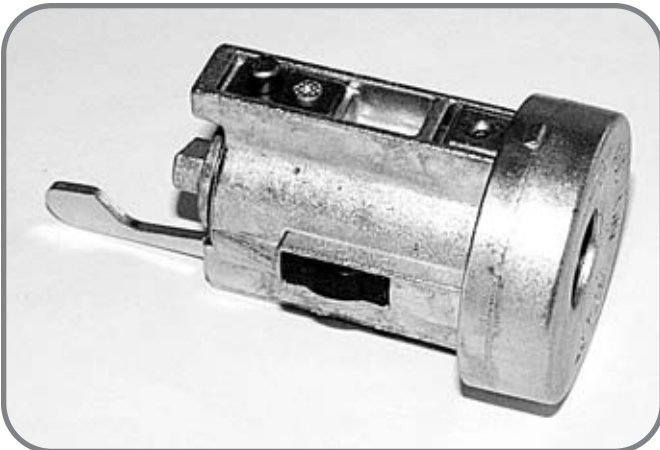




9 The active retainer is located at the 9 o'clock position when looking at the lock face.



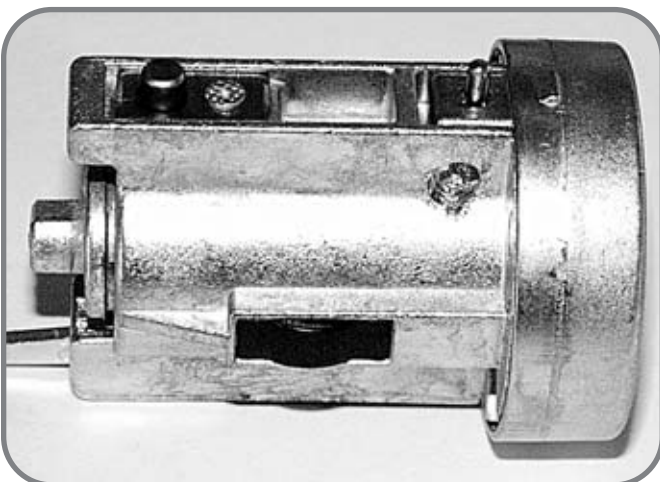
10 Depress the lock retainer and slide out the cylinder.



11 If we didn't know better I would say this is a Toyota ignition lock. It has a Tru-Arc ring on the back, a solid roll pin on the face cap along with the now trademark pot-metal posts on the face cap that travel through the face of the ignition lock cylinder housing.



12 Remove the Tru-Arc ring from the rear of the cylinder plug.



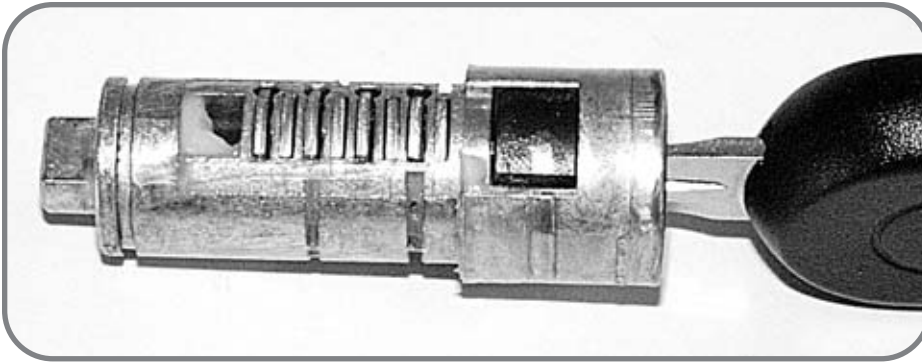
13 Drill a 1/8" access hole on the side of the solid roll pin housing and pry it up from the bottom and remove.



14 To easily remove the face cap, I put the ignition lock in a vise and used a pin punch to knock the face cap posts through the lock cylinder housing. Warning - Make sure you alternate the hitting of the posts with the pin punch so that they travel through the lock cylinder housing evenly and thus avoiding snapping one of the posts.

Continued on page 42

Continued from page 40



15 The lock cylinder plug contains all 8 tumblers needed for a complete key.

Door Lock Service:



16 The door lock cylinder is part of the outside handle assembly.



17 To service the lock cylinder, we will need to remove the inside door panel.



18 There are 2 trim caps and Phillips head screws that must be removed on the rear of the panel.



19 Unsnap the padded armrest from the rear and remove.



20 Remove the Phillips head screw that was hidden under the armrest.



21 Unsnap and remove the trim piece around the inside door release lever.

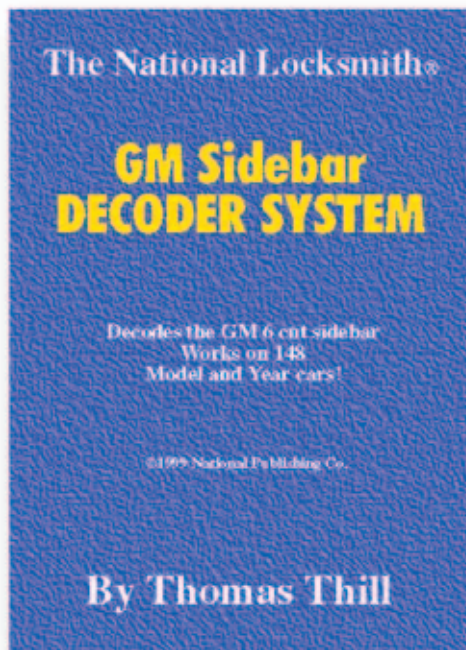


22 Unsnap and remove the upper speaker trim cover.



23 The power window control unit can be gently unsnapped & removed.

Continued on page 45



GM Sidebar Lock Decoder System

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

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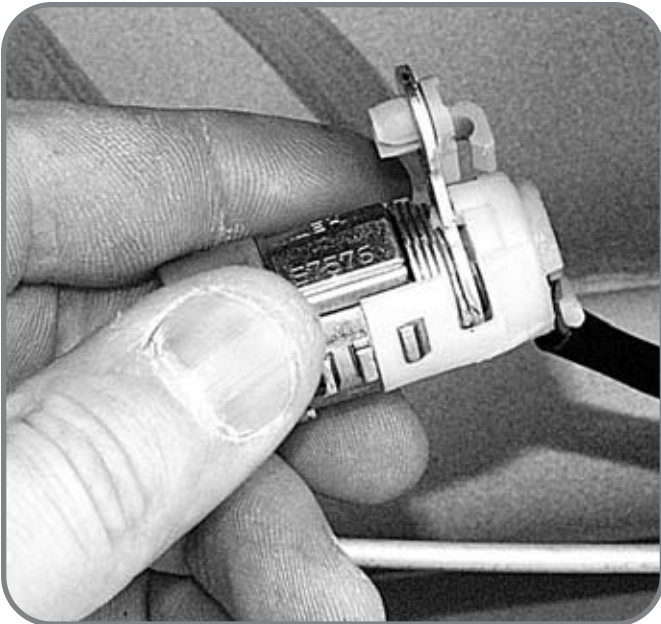
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24 Now the door panel can be removed. It is held in place by the standard plastic push-in style clips. Once you have the panel removed, don't forget to disconnect the courtesy light.



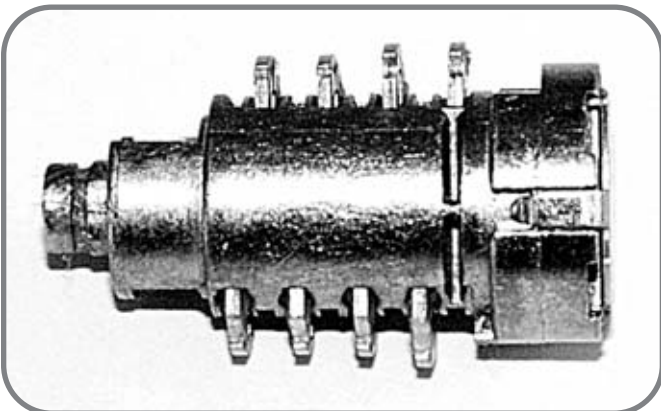
25 You'll notice there is plenty of room in this door cavity. The lock cylinder can be removed by moving the wire clip out of the way.



26 Once you have the lock cylinder in hand, disconnect the electric from the back of the lock.



27 The face cap is easily removed and can be reused. The lever (pawl) is held on by a retaining clip.



28 The lock cylinder plug contains all 8 tumblers needed for a master key.

Next month we conclude with the tailgate lock, glove box lock and programming procedures.

TNL

The Ilco 4000 Electronic Pushbutton Lockset

Part Two



by Richard Allen Dickey

sides of the door. This will allow drilling from both sides of the door.

As I am sure you are aware, you never want to drill all the way through a wooden door from one side. If you do, you could cause large pieces to “blowout” from the other side of the door, and sometimes the blowout will not be completely covered by the lockset.

As you can see, one of the two parts of the HIT-104 is “L” shaped and the other is flat. The “L” shaped piece helps to keep the jig aligned with the edge of the door. Both pieces have a round, beveled metal disk that helps to align the jig with the crossbore of the door. (See *photograph 3.*)

Supplied with the jig is a long Allen head bolt and wrench. The

The Ilco Unican 4000 series is a cylindrical heavy-duty all weather, programmable lockset. (See *photograph 1.*) The 4000 is designed to accept Best, Falcon, Arrow and compatible interchangeable core cylinders in the outside lever.

The 4000 is not intended for areas that require an audit trail. However, the lock will work very well in all other applications. This is one of those locks that has a very solid feel to it, even before it is attached to a door.

Last month I talked about the operation and mechanical adjustment of the Ilco 4000. This month I want to install the lock and program it for access for the customer.

The installation went extremely fast. If the lock is already adjusted for handing and door thickness, installation is only about ten minutes. However, there was one extra tool I used that helped a lot. It was the HIT-104 from Major Manufacturing Inc. What is the HIT-104? Let me show you.

The HIT-104

The HIT-104 is one of many different installation jigs produced by Major Manufacturing Inc. The 104 is specifically designed to aid in the installation of the Ilco 4000 series locksets. *Photograph 2*, shows the two parts of the jig. Each piece is fitted with hardened 1/4” drill guides. They will hold the bit in perfect alignment while drilling. When the jig is attached to the door, the drill guides will be on both



1. The Ilco 4000 series electronic pushbutton lockset.

bolt fits through the hole in the middle of the metal disk. (See *photograph 4.*) The other metal disk is threaded to accept the bolt. When the two pieces of the jig are placed on the door and held in place by the Allen bolt, the jig is very secure. (See *photograph 5.*)

With the HIT-104 attached to the door, it takes less than one minute to drill the holes. (See *photograph 6.*) After removing the jig, four of the five holes are left as 1/4". The center hole at the top



2. The two parts of the HIT-104 installation jig.

is enlarged to 1" to allow room for wires to pass through. (See *photograph 7.*)

Before the 4000 can be installed, you should be sure that it is adjusted for handing and door thickness. Both of these steps were covered last month, so I won't get into them again.

The Ilco 4000 Installation

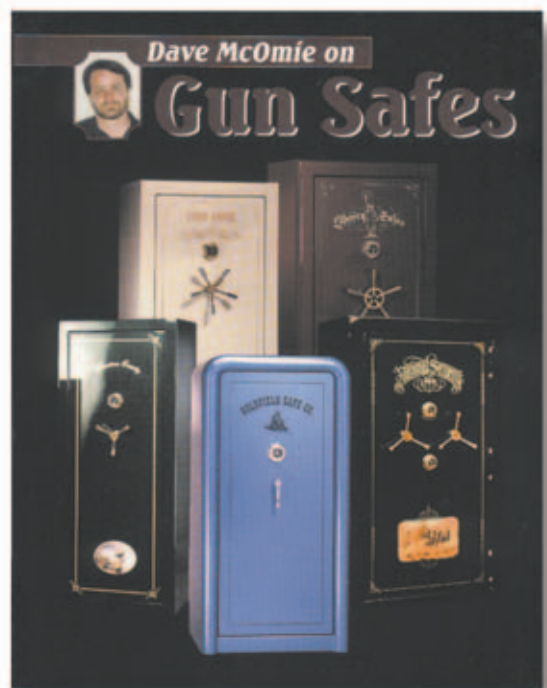
The latch is available in 2-3/8" or 2-3/4"

and is supplied with two different strike plates. As usual, the latch is the first thing to install. (See *photograph 8.*)

After installing the latch, install the outside housing assembly by passing the flat cable through the 1" hole, taking care to ensure that the latch and drive unit engage properly.

There is a black metal plate that can be used with the outside housing assembly. (See *photograph 9.*) It is not mentioned in the installation directions, but I found that in

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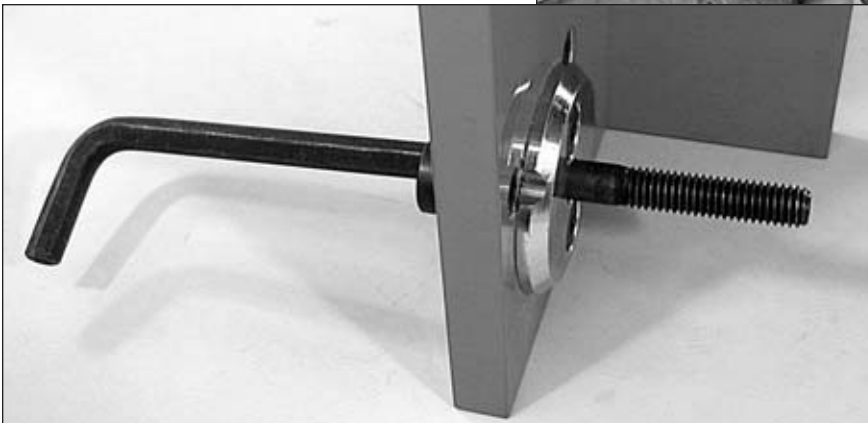
#GS - 1



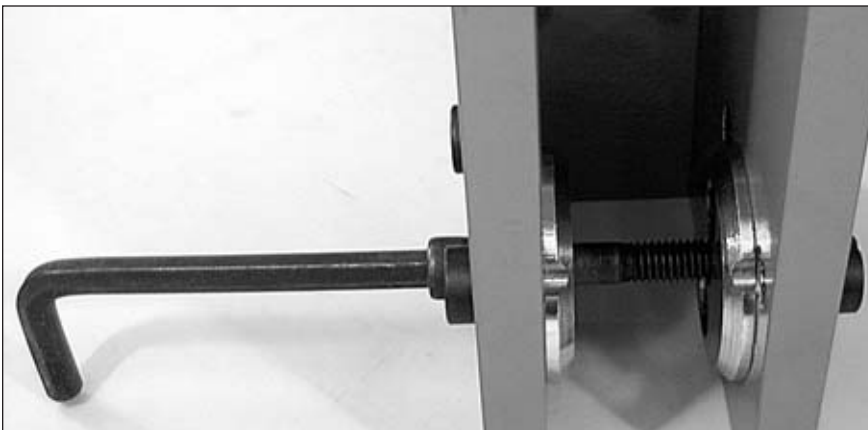
3. The metal disks are self-centering in a 2" \pm 2-1/8" crossbore.



6. Using the HIT-104 to drill the mounting holes for the 4000.



4. Allen head bolt used to attach the two pieces of the jig together.



5. The HIT-104 viewed as it would be when attached to a door.

my case I needed this plate to add just a little thickness to the door. Without the plate, the lockset bound when everything was fully tightened.

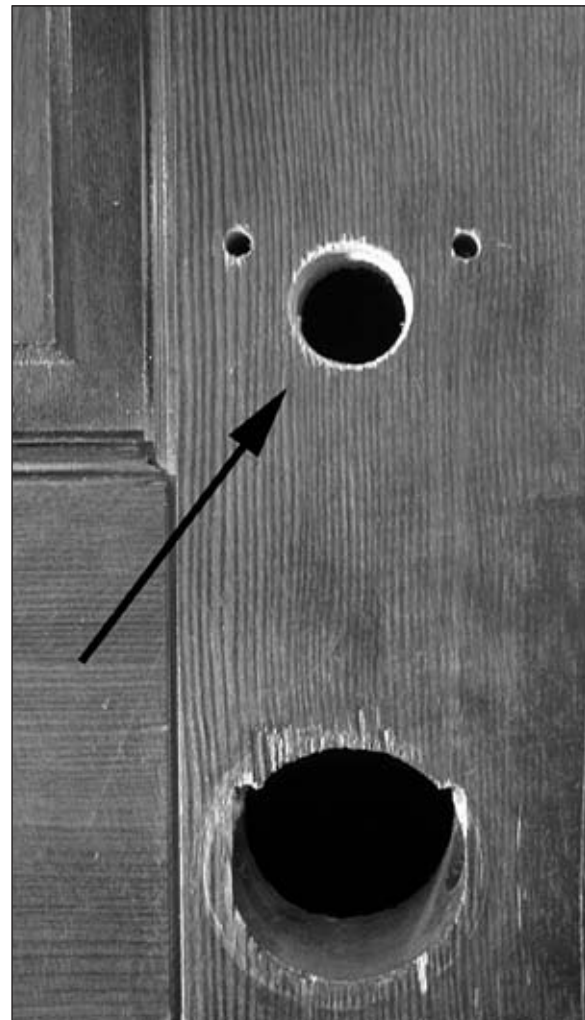
Now take a look at the pins in the outside lever and make sure they are in a horizontal position. (See photograph 10.) If they are not, use a screwdriver to turn them. The pin position has to do with the mechanical override, so they have to be in this position during the lockset installation.

With the outside housing assembly in place, attach the flat cable to the connector located at the top of the inside housing assembly. (See photograph 11.) The connector is keyed, so it will only fit in one direction.

There are two things to check before the inside and outside housing assemblies can be mated. The first is to

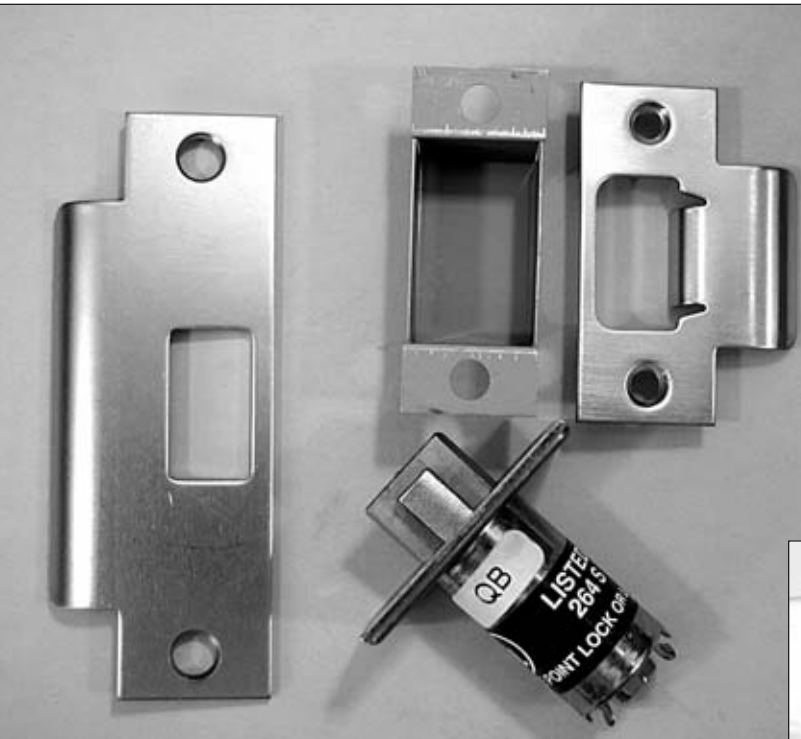
ensure that the handing alignment mark is set properly. (See photograph 12.) In this case it is set for left hand.

The second thing to check is the square spindle and



7. The upper center hole is the only one that needs to be enlarged.

Continued from page 48



8. Two different strikes are supplied with the 4000.



9. The metal plate used between the door and the outside housing assembly.

the override shaft. The override shaft is the flat thing inside the square spindle. Both of these have a paint mark on them. Both paint marks need to be on the top before it can be inserted into the outside housing properly.

While inserting the inside housing assembly into the outside housing assembly, you may need to wiggle the inside assembly just a little to help engage the four metal prongs on the lever driver to the slots on the drive assembly.

(See photograph 13.) You will be able to tell if things are not engaged properly.

Install the four mounting screws to hold the assemblies together, but do not tighten them. (See photograph 14.) It is time to test the function of the lock before the final tightening.

Slide the inside handle on and see if it will retract the latch. Next, turn the override pins in the outside lever 90°, in a direction opposite to the direction that the lever would normally be operated. This will disengage the override system for the outside lever.

Temporarily attach the battery pack (See photograph 15) to the inside housing assembly. (See photograph 16.) While holding the battery pack in place, punch in the code 4000 on the keypad. If things are working properly, there will be a visual and audible indication and the outside lever

will retract the latch when turned. If everything seems to work fine, tighten the screws.

Snap the inside cover onto the inside housing assembly and install the inside lever. (See photograph 17.) The lever



10. The position of the override pins during installation.



11. Attaching the flat cable to the inside housing assembly.

Continued from page 50

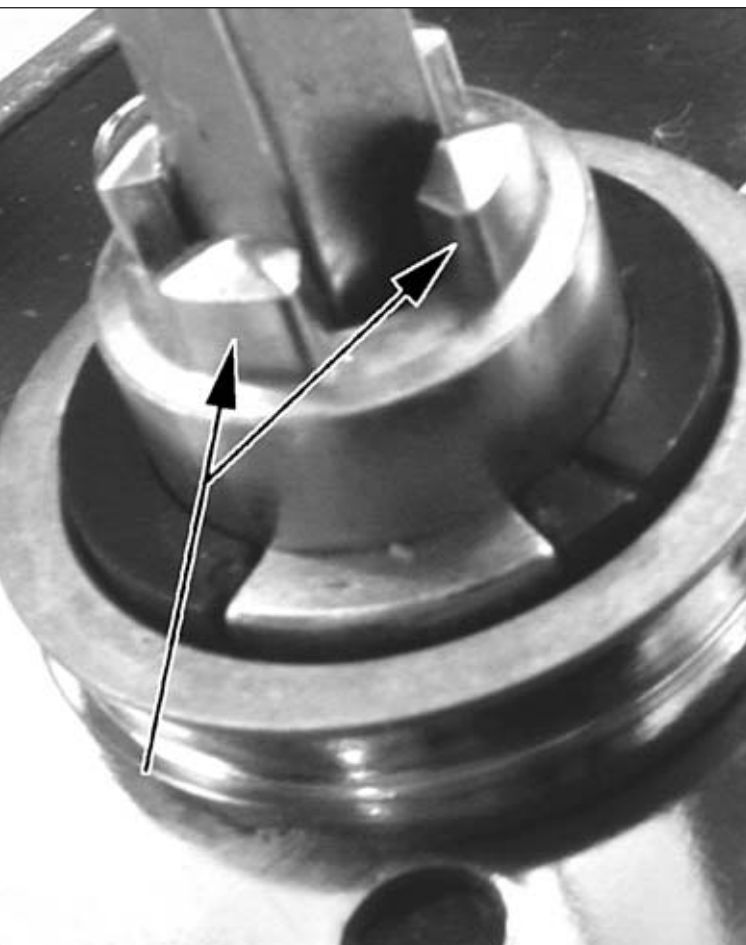


12. The mark indicated by the arrow has to point either "R" or "L" depending on the handing of the lock.

however it will engage the outside lever to the cylinder drive unit. When the lever is turned, the latch will retract. Removing the key disables the manual override. This takes care of the installation. Now the lock can be programmed.

is held in place with a 8x32 set screw. (See photograph 18.) Now the battery pack can be slid into place. (See photograph 19.) The battery compartment is then attached with two 6x32 screws. (See photograph 20.)

As you can see in photograph 21, the only thing left to do is install the removable core. With the core installed, it is time to check the mechanical override. Insert a key and rotate it 90°. (See photograph 22.) Rotating the key will not retract the latch,



13. There are four prongs on the lever drive that have to match the slots in the cylinder drive assembly.

Programming Procedures

Programming the 4000 is a simple task. No computer is needed and no special devices are required. Everything is done at the keypad. The only access code that is programmed from the factory is the "4000" that was used earlier. To start with a clean slate, it is recommended that you delete all codes by using the master code along with the sub command code. How does this work? Let me show you.

The programming structure for this lock is: one master code; three manager codes; and 18 user codes, plus one service code. The master and manager codes will not open the lock. They are only used for programming.

The Master Code Capabilities

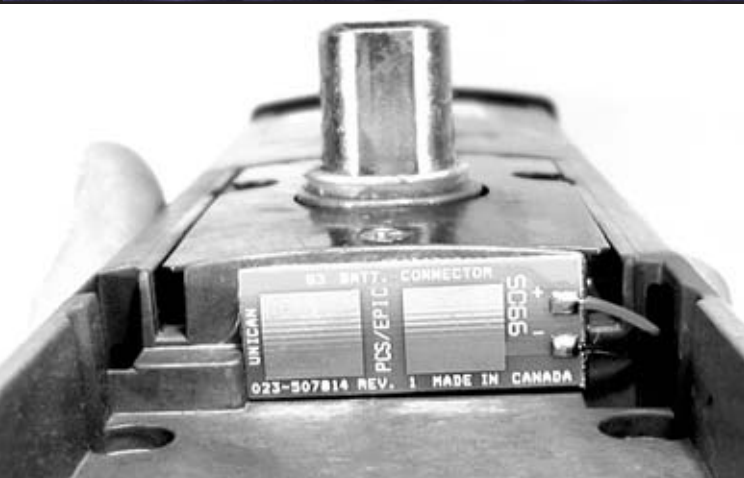
- Enable or disable passage mode.
- Enable or disable the remote unlock feature.



14. The four attaching screws used to hold the inner and outer housing assemblies together.



15. Mounting screws and the battery assembly.

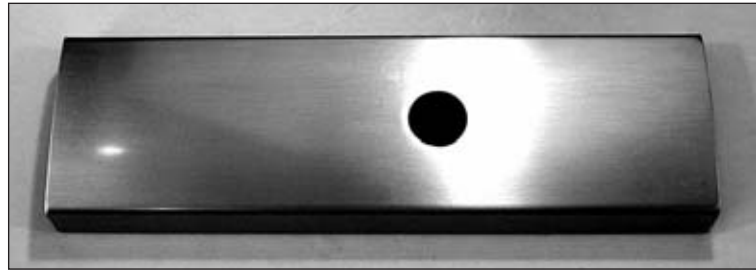


16. The contacts for the battery are located on the bottom of the inside housing assembly.

- Set the unlock time from 1 to 20 seconds.
- Set the tamper shut down time from 1 to 15 minutes.
- Set the buzzer sound to off, soft or loud.
- Set the lock configuration to commercial, residential or handicapped mode.
- Add, change, delete, lock out, or reactivate the manager codes, user codes and service code.

The Manager Codes Capabilities

- Enable or disable passage mode.
- Enable or disable the remote unlock feature.
- Add, change, delete, lock out, or reactivate the user codes within that managers group.



17. The cover for the inside housing assembly.



18. The inside lever is held in place by a 8x32 set screw.



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19. The battery assembly is inserted into the bottom of the inside housing assembly.

The master code must be eight digits long. The manager codes must be seven digits long. The user codes can be from three to six digits long, however, all user codes must be the same length. If the first user code entered is four digits long, all other user access codes must also be four digits long.



20. The battery assembly is held in place by two 6x32 screws.



21. A front view of the finished installation before the interchangeable core is installed.

To delete all previously entered user codes and manager codes, it is as simple as one, two, three.



22. If the key is inserted into the lock and turned, it will engage the mechanical override and allow access by turning the lever. No code is required.

Deleting Codes

- Press “#” to start the programming session.
- 1,2,3,4,5,6,7,8 which is the default master code.
- The master code should be followed by the “#” sign.
- This is followed by the sub command of 300, which is the code to delete all codes except the master code.
- Follow the 300 with the “#” key and the command is executed.
- Pressing the “#” once more will take you out of the programming mode.

All of the programming commands for features are this simple. You enter a “#” followed by the master or manager code, followed by a “#”, followed by the sub command, followed by a “# #”. If the sub command is to add an access code, there is just a little more that is added to the string of codes.

Adding a User Access Code

- Press “#” to start the programming mode.
- Enter the master or manager code. If a manager code is used, changes can only be made to the group associated with that manager.
- Press “#”.
- Press “2” to indicate add or change code.
- Press “11” to indicate group one, user one. The “211” is considered the sub command.
- Press “#”.
- Enter the new user code. An example could be “2215.”

- Press “# #” to execute the command and end programming.

Here is the sequence of information as you would enter it.
#12345678#211#2215##.

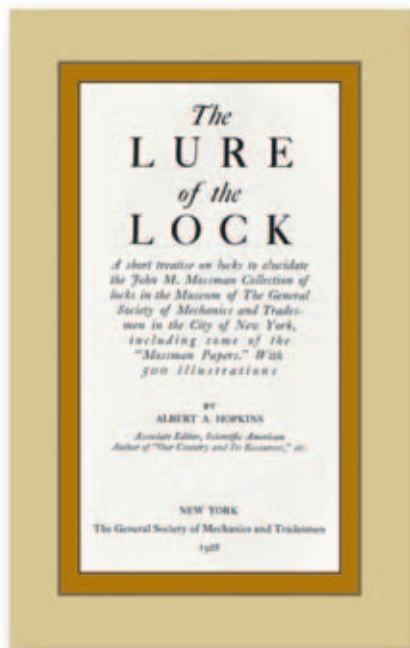
It really is simple once you do it a couple of times. To change the master code from the factory default, to the code “22446688” you would press “#12345678#299#22446688#22446688##” Changing the master code is the only time that you would enter the new code twice. This is to make sure that a wrong new code is not entered by accident.

If the master code is forgotten, there is only one thing that can be done. The inside housing assembly must be removed from the door and the master reset button pressed. This resets everything to the way it was when it left the factory. Since the inside housing assembly has to be removed to press the reset button, it can only be accomplished by someone that already has access to the lock, another excellent feature of the 4000.

I hope this article along with the one last month has been helpful. The Ilco 4000 series lockset is well constructed and should stand up to just about any application.

For more information about the 4000 series electronic pushbutton lockset from Ilco Unican, call 1-800-849-8324 or fax a request to 1-336-722-8814. You can even visit their web site at www.ilcounican.com. Circle 316 on Rapid Reply.

TNL



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#LURE

Quick Entry

UPDATE

by
Steve
Young



2001 PONTIAC AZTEK

I was there in January of 2000 when Pontiac unveiled the new Aztek. (See *photograph 1.*) The most common thing that I overheard from the other journalists was “This is a joke... isn’t it?” Unfortunately, the Aztek is not a joke, but it has certainly become the subject of many jokes. Here’s just one of many that I’ve heard lately:

The Pontiac Aztek is proving to be one of the safest vehicles on the road. Recently, a family of four lost control of their Aztek and plunged into a lake. Fortunately, all of the fish got together and threw it back out of the water and no one was seriously injured.

The Aztek is not just weird on the outside, but on the inside as well. The door panels are particularly strange to me. The inside door handle is made of plastic and swoops upward several inches through an opening in the door panel. After you have released the panel from the door you have to rotate the panel almost 45° and then lift it over the handle. Unfortunately, the panel can’t be rotated far enough because it hits the frame of the door. Lifting the panel free of the door is a struggle that requires you to flex the door panel and scrape it along the edge of the doorframe. I suspect that the door panels are installed on the doors before the doors are mounted on the vehicle, and the engineers never considered how these doors would be serviced in the field.

After we finally got the door panels off the doors, we found three different methods for unlocking the Aztek. The rear door can be unlocked in two different ways with the TT-1008 tool (see *illustration A*), and the front door



1. 2001 Pontiac Aztek.



2. The long end of the TT-1008 tool can be used in two different ways.



3. Insert the long end of the tool at the rear of the window.



4. Angle the tool so that it slides along the rear edge of the door.



5. The tool hooks onto the lock control linkage.

can be unlocked with the TT-1003 tool. (See illustration B.) An inspection light is not needed for any of these methods.

Unlocking Method #1:

The easiest way I found to unlock the Aztek was through the rear door, using the long end of the TT-1008 tool. (See photograph 2.) Begin by inserting the tip of the tool at the extreme rear of the window on the rear door without using a wedge. (See photograph 3.) There is very little room to insert the tool at this point and using a wedge seems to block the movement of the tool. By inserting the tool without a wedge, the tool goes in easier and is easier to position.

Lower the tool until the tip is several inches below the outside door handle. When the tool is at the proper depth, work the tip of the tool to the rear of the window track and then angle the tool so that the tip is as far to the rear as possible, touching the rear edge of the door. With the tip of the tool pointed toward the inside of the vehicle, pull up on the tool until it stops. (See photograph 4.) At this point the tool will contact the lock control linkage near the latch. (See photograph 5.) Pulling up on the tool will cam the linkage rod forward unlocking the door.

Unlocking Method #2:

The second method takes a few seconds longer than the first, but is still very quick. The TT-1008 tool is inserted in exactly the same way as the previous method. However, when the tool is several inches below the outside door handle, work the tip to the rear edge of the window track. The window track slants forward slightly inside the door. When the tip of the tool is behind the window track the shaft of the tool will be vertical. With the tip pointed toward the inside of the vehicle, pull straight up on the tool until it stops. When the tool stops it will be hooked onto the horizontal inside lock control linkage rod. (See photograph 6.) Twist the top of the tool to bind the linkage and then lever the linkage rod forward to unlock the door. (See photograph 7.)

Unlocking Method #3:

The front door can be unlocked with the long end of the TT-1003 tool. (See photograph 8.) Begin by wedging open the door just forward of the outside door handle. Insert the long end of the tool into the door and as soon as it is below the base of the window glass, rotate it so that the tip is pointed toward the inside of the door.



6. The tip of the tool hooks onto the lower linkage rod



8. The TT-1003 tool is inserted just forward of the outside door handle.



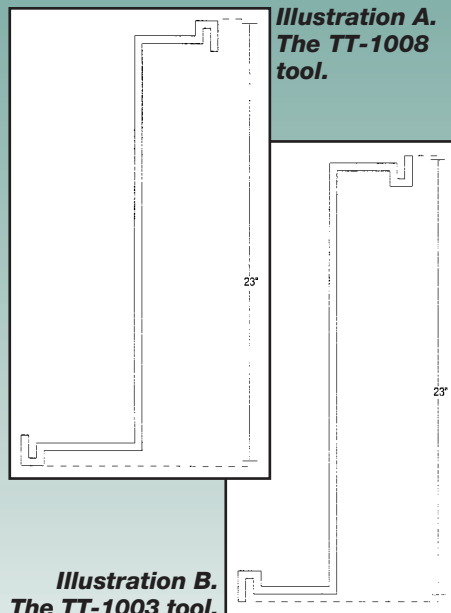
10. The tool hooks onto the upper linkage rod.



7. Lever the linkage rod forward to unlock the door.



9. Twist the top of the tool to bind the linkage.



**Illustration A.
The TT-1008
tool.**

**Illustration B.
The TT-1003 tool.**

Quick Reference Guide

Vehicle: 2001 Pontiac Aztek	Lock Mfg: Huf
Direction of Turn: Counter Clockwise (passenger side)	Security System: PassKey III Transponder System (PK3)
Tool: TT-1003, TT-1008 or Jiffy-Jak Vehicle Entry System	Code Series: H0001 - H3988
Lock System: GM 10-cut system	Key Blanks: Ilco B99-PT, Jet B99-PHT, Strattec 598936

Next, lower the tool until it stops. At this point the tool should be hooked onto the upper horizontal linkage rod. This rod is the inside lock control linkage and it is slightly closer to the outside of the door than the handle linkage. (See photograph 9.) When the tool is in position, twist the top of the tool to bind the linkage and then lever the linkage rod forward in order to unlock the door. (See photograph 10.)

The heavy frame around the window glass on this odd looking vehicle also makes it very easy to unlock by using the Jiffy-Jak Vehicle Entry System.

For more information on Tech-Train products call: 800-356-0136; Fax: (850) 476-7410; E-mail: Techtrain@techtrainproductions.com; Web: www.techtrainproductions.com. Circle 315 on Rapid Reply. **TNL**

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These are just some of the new products that will be on display at this years ISC Expo.

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Visonic Ltd. presents access control at its best. Small and simple to operate, the CL-8 is a microprocessor controlled digital keypad that offers dealers versatility. The CL-8 is suitable



for surface or flush mounting and responds to 56 individual user codes. The CL-8 is supplied with a Form C 10 Amp relay, which can be programmed to operate 0-98 seconds or in a latching mode. Also supplied are an auxiliary output, a panic output and a request to exit input which operates the relay from a remote switch, PIR, etc. Other features include EEPROM memory. The CL-8 offers the dependability and advanced technology that Visonic Ltd. users are accustomed to.

Optex Vision 8 Zone Control

Vision's innovative Quad Key design simplifies security: just select the area(s) you wish to protect and push "On". It's the 'Point & Click' security system. Vision's four Quad Key buttons are easily programmed to suit the user's lifestyle; providing a system that is customized and easier to understand and operate. Outdoor Zones are another Vision innovation, which allows outdoor detectors to be integrated directly into your security system. Vision programs easily with an LCD keypad, its hand held "Quick Programmer", or a computer (direct connect or download).



Dortronics Systems, Inc. Pull Stations in a Variety of Colors

Dortronics Systems, Inc. offers installing dealers and systems integrators customized emergency pull stations for a variety of signaling and/or door release applications. The 6510 Series Emergency Pull Stations are available from stock in black, yellow or blue to clearly differentiate them from traditional red fire alarm stations. In addition, graphics can be customized with any desired message to meet local code requirements.



Videx Cam Style CyberLock

CyberLock technology has now been incorporated into a cam style lock. The cam lock is the newest member to the CyberLock family of intelligent cylinders, which currently includes the 6-pin cylinder, used in padlocks and knob or lever sets for doors, as well as the mortise and rim cylinders. The 3/4-inch cam cylinder is designed to operate on a 90° rotation, making it ideal for cabinets, drawers, and arcade and vending machines. The first component of the CyberLock system is the CyberLock cylinder. CyberLock cylinders are designed to seamlessly convert existing mechanical locks into a full-functioning access control system,



without the need to completely change the door's existing hardware.

The CyberKey is the next component of the CyberLock system. This is where battery power and access privileges are found. The CyberKey records an 1150 event history that includes a cylinder ID, user ID, date, and time. The CyberKey can be programmed to grant authorized users access for specific times and dates, while exceptions such as holidays can be preset. In addition, the CyberKey can be set with an activation and expiration date to prevent users from gaining access before or after their project has been completed.

SDC Locks Meet Positive Pressure Fire Test Standards

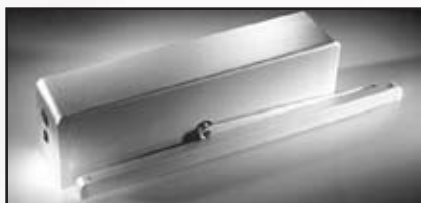
All Security Door Controls Emlock's and select Spacesaver electric bolt locks have complied with the positive pressure requirements of standard UL 10C and are classified in accordance with Uniform Building Code (UBC) standard 7-2, "Fire Test for Door Assemblies". The new listing and classification verifies that SDC Emlocks and Spacesaver bolt locks have passed test criteria designed to increase protection of life and property in a fire.



SDC is one of the first manufacturers to comply with these standards.

DORMA ED 800 Operator

DORMA's ED 800 low energy operator combines a powered door closer with a microprocessor control to render and ADA-compliant device that either assists with the opening of a door or opens a door automatically for the physically challenged. The ED 800 can be field adjusted into one of two modes: low

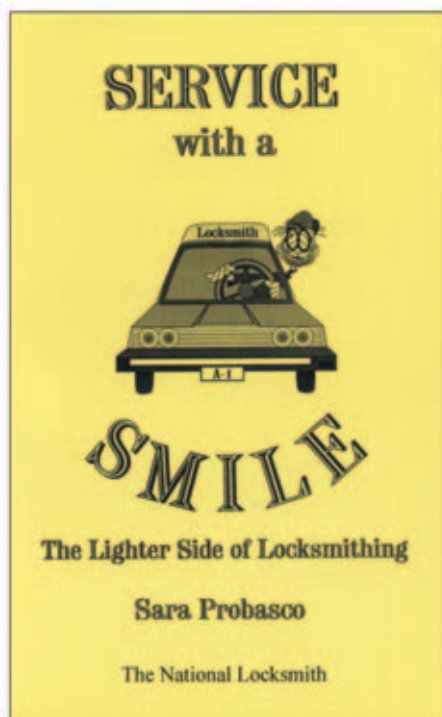


energy or power assist. In low energy mode, the activated unit cycles the door open according to four user adjustments: delay time, opening angle, opening time/force and door width. In the power assist mode, the ED 800 supplies powered assistance to manual operation, adjustable between 1/2 lbf. and 5 lbf. The operator may be activated with a wall switch or wireless transmitters.

Additionally, a standard push-and-go feature, when turned on, automatically activates the operator when a person begins to open the door manually. To simplify set up, an on-board microprocessor completes a learning cycle upon the first application of power. During normal operation, the ED 800 electronically senses the door environment and adjusts opening and closing forces accordingly. As an added safety measure, the ED 800 stops operation and enters a balanced state when it encounters an obstacle in the opening or closing cycle. An assist function is automatically engaged to make it easier to push the door out of the way.

Jensen Kit of Insulated Tools

Jensen Tools Inc. offers a set of insulated tools that are engineered for



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#SWS

protection against electrical shock when working around live electrical wires and charged equipment. They are made by the German tool manufacturer CK, and meet the requirements of Germany's stringent VDE standard IEC 900. Each tool has been individually tested at 10,000 volts and certified safe at 1000 VAC/1500 VDC. The set contains eleven standard tools used by security installers and technicians: a 7" side cutter, 8" long nose pliers, 6-1/2" long nose pliers, 8" linemans pliers, and seven screwdrivers (7/64 x 3", 5/32 x 4", 7/32 x 5", 1/4 x 6" slotted; #0 x 2-1/4", #1 x 3", and #2 x 4" Phillips).



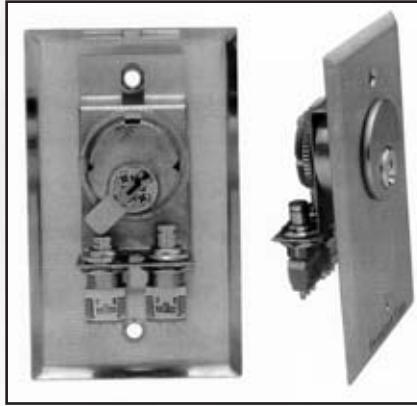
Keyless Entry from Kwikset

The Titan wireless home entry system is an exterior wall mounted keypad that operates the Titan AccessOne Remote Keyless Entry Lockset System. The keypad system uses Personal Identification Numbers (PINs) to operate the AccessOne lockset, and internal house lights that are outfitted with the AccessOne remote lighting module. Permanent and temporary PINs, up to eight digits long, can be programmed for family members or assigned to individuals for special purpose access (i.e. babysitters, temporary house guests, etc.). A security lockout feature shuts the system off after several incorrect PIN entries, and can only be reactivated after a 60 second time out period.

The keypad mounts easily near the door and is self-illuminating, making the system easy to use at night. The system also has a low battery display and won't erase programmed PINs when users change the battery. Like all other Titan AccessOne Keyless Entry System products, the keypad control incorporates anti-theft rolling code technology, which prevents code-grabbers from gaining electronic access to the home. With more than four billion possible combinations, this technology provides the highest level of home security available.

DynaLock 7000 Series Keyswitch

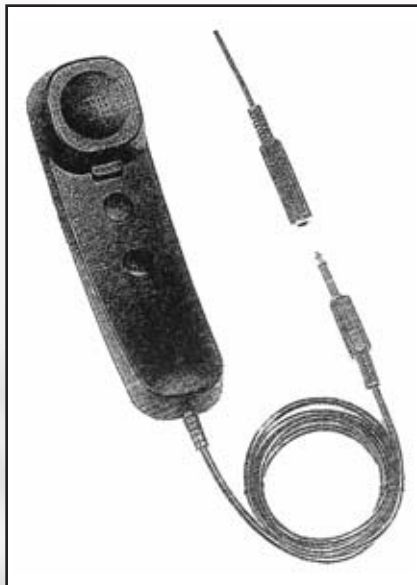
The redesigned 7000 Series Key-switch line featuring a more compact



size, acceptance of 1-1/8" or 1-1/4" mortise cylinders and activation with most any bat type cam. The rugged switch assembly may be specified with one or two heavy-duty pre-wired switches, plus Bi-color LED indicator, audible and special finishes. Tamper resistant screws and stainless faceplate are standard.

Sitecom Intercom Handsets

Sitecom Intercom Handsets feature: private "duplex" (simultaneous 2-way, like a phone - no confusing one-way-at-a-time, as in common "simplex" intercoms), operates long distances over ordinary 2-conductor wire, call-signal incorporated, each handset works on an internal 9V battery, 4-5 handsets



may be connected on same wire, the exit cord of each handset is fitted with a standard 2-contact phono-plug, extra jacks may be spotted anywhere on the line, compact handset can be carried in a pocket, wall hanger and comes in black. Applications include industry and field operations, offices, stores, mines, and military. **IRL**

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#TIPS - 2

BEGINNER'S CORNER

Schlage S-Series Lock.

by
**Raymond
Moreno**

This is a little lesson on installing a certain type of interconnected lockset and some marketing hints from little ole me.

Let me start off by sharing one of my best marketing tips with you.

First off, I pass out at least 500 business cards a month. No exceptions. These are, (in my opinion), the top moneymakers of my business. Why do I say that? Because they're personal!

If you rely on a yellow page ad (which I also have) or some type of passive advertising, (in which you are waiting for someone to call instead of pounding the pavement and looking for the work), while you're waiting around, I'm gonna be selling myself to your potential customer. There's no better way to advertise, than to sell yourself.

Don't get me wrong, I'm sure that word-of-mouth, industry references and even exceptional work, will draw you business. But don't wait for it. Go get it! Pass out those business cards and tell the people what you can do for them. Show-off some of your talent, and leave them in amazement with what you can provide. It works!

Being from the San Francisco area, we have many people from foreign countries establishing businesses here. You would be surprised how many of them have no idea that "we could do that!" If you talk to people and leave a few business cards, you will get business.

I received a call from a friend of mine who is a construction worker, who told me that he was doing some construction/renovation on a Naval Air Base, in Alameda. The base was recently closed down and is getting remodeled to accept civilian low-income housing.

He told me there were a bunch of Schlage, interconnected locksets,



1. Schlage S-Series single locking entrance lock (S210PD).



2. The first step is to drill all the necessary holes.



3. You can see that the existing hole is not the proper size.

which needed to be installed. Someone had tried to install a few of the locksets and misaligned crossbores, and caused other damage to a few doors. After learning this I grabbed my red cape and blue tights...and off I went.

Whenever I know that I will be installing locksets from scratch, I always, without fail, make sure I have a bunch of very sharp chisels and a grinding wheel on site. This is to make sure the chisels stay razor sharp. I have learned the hard way, that dull chisels make for sloppy work and super-long hours.

Upon arrival, I find that the locksets are Schlage "S-Series" interconnected locksets. (See *photograph 1.*) All the locksets were present; all I had to do was install them.

My drilling jig of choice is the "INJIG" boring jig by PRO-LOK. I like it because of its compact size and easy set-up.

Upon inspection of the doors, some of them only needed to have the crossbores for the deadbolts drilled and some of the doors were already drilled for the handles, but with the wrong crossbore size.

In *photograph 2*, you can see how the PRO-LOK installation jig is placed onto the door in preparation to make the necessary correction for a wrong sized crossbore. Look closely at *photograph 3*, and you will see the difference in the crossbore diameter. The crossbore for the lower portion of the lock should be a 2-1/8" inch diameter. But it was drilled to a 1-3/4" inch diameter.

Looking at *photograph 4*, we can see that both crossbores now have been drilled. Both the faceplates have also been cut and the deadbolt and latch mounted.

With all this done, it is now time to install the deadbolt cylinder. *Photograph 5*, shows the tailpiece of the deadbolt cylinder getting put into position. Notice that the tailpiece is in the vertical position. In this position, the bolt will be extended.

Photograph 6, is a detailed view of the mounting plate. Look at the arrow
Continued on page 66

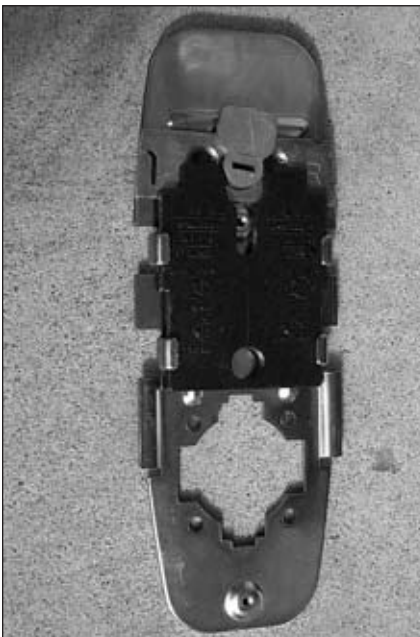
Continued from page 64



4. The door has already been prepped and the deadbolt and latch installed.



5. Installing the cylinder.



6. A close up of the mounting plate. When installing the arrow must be pointed towards the door edge.

on the cam. It is pointed upward. In this position, the bolt will be retracted into the door. If the arrow on the cam is pointed toward the door edge, the bolt will be extended.

In *photograph 7*, the arrow on the cam is pointed towards the door edge and the tailpiece is inserted in the vertical position. The bolt is now in the extended position. Once this is done, you must point the arrow on the cam, upward. This will expose the two holes for the screws that hold the deadbolt cylinder in place with the mounting plate.

The next step is to mount the exterior lever. Before we do that, you must determine the handing of the door. Once you have this information, you can adjust the "lever stop" on the inside of the exterior handle. This will enable the handle to retract the latch and deadbolt. If you look at *photograph 8*, you can see the lever stop. It is the gold colored insert in the handle.

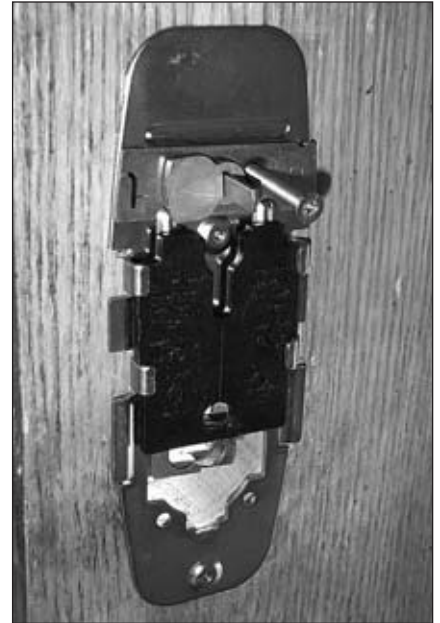
Photograph 9, shows the lever stop being pulled-out and repositioned correctly. This is done by looking at the markings on the lever stop ("L" is for left hand, and "R" is for right hand). The interior handle also needs to be adjusted to the handing of the door. The part inside the interior handle that must be adjusted is called the "driver."

The driver does not come out like the lever stop did. It just gets rotated to the correct position. (Sorry, I forgot to shoot a photograph of it, so just take my word for it.)

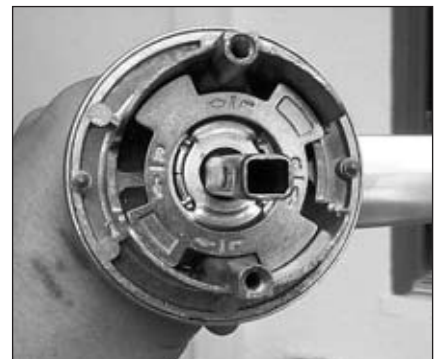
In *photograph 10*, the exterior lever has already been put in place and I am holding up the "slide plate" with my finger. If you look back to *photograph 6* or *7*, you can clearly see the slide plate. The arrow on the cam must be pointing upward so that the slide plate can be lifted, enabling the interior handle to be installed. If not the slide plate will be blocking the installation of the internal lever.

Photograph 11, shows the internal lever securely mounted to the external lever by two long screws. The escutcheon is now slid over the interior lever and positioned to be fastened in place.

Photograph 12, shows the completed installation from the inside. Install the two screws into the



7. Connect the cylinder and mounting plate using the two long screws provided.



8. The next step is to install the exterior lever.



9. The lever stop is being removed and repositioned.

escutcheon and you're done. *Photograph 13*, shows the completed installation from the outside.

The function selected for these locks was "single locking entrance." What that means is that the exterior lever will always be unlocked. The



10. You must hold the slide plate up with your finger because the slide plate blocks the internal lever from being mounted.



12. Install the two screws into the escutcheon and you're done.



11. Held with the two mounting screws, the interior and exterior levers are installed.

deadbolt is the only source of security for the door. On the inside, the thumb-turn will throw and retract the deadbolt. But if locked, the inside lever will retract the deadbolt automatically.

Keep on honing your skills and growing in knowledge. You will be better at your trade and your customers will be better served.



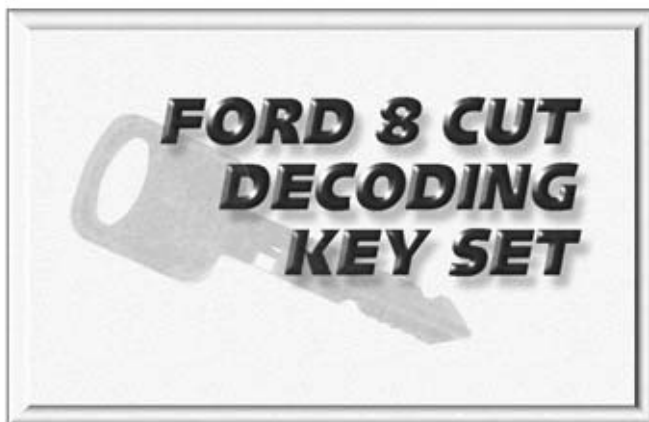
13. Here is the exterior view.

Till next time (or till we bump into each other at Burger King!)

For more information on Schlage hardware, contact: Schlage Lock, Colorado Springs, CO 80902. Phone: 800-847-1864; Fax: (719) 264-5382; Web: www.schlage.com.

RL

Ford 8 Cut Decoding Key Set



Complete with 143 specially cut keys and simple directions. You get door and ignition keys within just a couple of minutes.

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#FD - 8

The UGHTER Side

Don't Mess With
Mister In-Between



by
**Sara
Probasco**

It was about eleven o'clock, the morning after Thanksgiving Day, when a customer came into our store to have us open a locked automobile at an RV park just inside the city limits. Unknown to us at the time, this man (a person known to us whom we'll call "Employee #1" for the sake of clarification) didn't own the vehicle - his boss did. The boss had loaned the car to another employee ("Employee #2") as part of their work agreement.

Employee #2 had left town rather abruptly, leaving the vehicle behind at the RV park where he had been renting a trailer to live in. Apparently, he had taken the car key with him. At any rate, when our man went to the RV park and opened the vehicle, he found no keys inside.

Returning to the shop empty-handed, our man notified Employee #1 of the situation and was instructed by him to make a new key from scratch.

"We're running a short staff today, it being a holiday, Friday and all, and this will take a bit more time than just an opening," our man advised Employee #1. "I'm afraid we'll just have to work you in when we can."

"No rush, but I do need to move the car sometime today," Employee #1 replied.

"No problem. Actually, I should be able to go back over there in about an hour, but I'll have to double-check the work schedule with my boss, first." Our man then quoted him a price, which he agreed to. About an hour later, our man returned to the RV park and made a key for the vehicle. As he was re-locking the doors, the park owner walked up.

"What are you doing with that car?" the park owner asked.

"Just getting it open for the owner," our man replied. He didn't mention having made a new key. He figured it really wasn't any of this man's business.

"I've got the key right here." He dangled a key chain from his hand. "But nobody gets this car 'til they pay for all the damages and thievery. That guy who

rented my trailer tore up the whole inside of it. Then he took my TV set and a microwave when he left. Whoever gets this car pays me for what he stole, so don't you be making keys for anybody without checking with me."

"I'm sorry about your problems, but that really doesn't have anything to do with me. I'm just doing my job. Anything else is between you and the guy who rented the place from you."

"Well, you give somebody a key and you'll be setting yourself smack in the middle of it."

"I'm just an employee doing what I'm told, trying to earn a buck."

"Then tell your boss he better call me before he does anything. I'm calling the police."

The RV owner stomped into his office, our man returned to our store with the newly made key.

In the meantime, Employee #1 had called the store twice, wanting to know if the key was ready. Unaware of the brewing situation, I gently put him off with promises to call him when the key was ready. Then our man returned, and I learned what all had taken place.

"Before we do anything, let me call the RV park owner and see what I can find out," I suggested. "What's the phone number, out there?"

Our man didn't have the phone number, and it wasn't listed in the phone book or with Information, so he drove back to the place and got the number from the owner's wife.

"That car's not there any more," he said. "I guess the park owner must have taken his key and moved it so nobody could drive it off."

"Maybe," I answered. I called and asked to speak with the park owner. When he came to the phone, I identified myself and said I understood there was a problem regarding the key.

"No problem," the park owner said in a gruff voice. "The car owner just came out here and settled up with me, so I gave him the key, and he drove the car away."

Well, that was the end of that.

Or was it?

At approximately two o'clock that afternoon, Don called Employee #1's office to say the key we had made was ready to be picked up. He was "unable to come to the phone," so the receptionist took the message.

I could envision the scenario that might be playing out. Now that the "emergency" was over, and the customer had located a key, he might not be so eager to pick up the key we had made and pay our service charge, no matter that he had ordered the work done and agreed to the terms and the price, earlier.

At four o'clock, I called again. Same results. I asked when their office closed and was told, "Five o'clock." At four thirty, I told Don I was going to the post office, then picked up the mail and the unpaid invoice and headed for their office.

The receptionist was no longer at her desk. In fact, there was no one to be seen. However, I could hear two men talking in a room down the hall.

"Hello! Anybody home," I called through the receptionist's window. The voices stopped for a moment, then resumed. I started down the hall. "Hello!" I called again. This time, a ruddy-faced young man stepped from one of the offices and came my way. It was Employee #1.

"Can I help you?" he asked.

I called him by name and extended my hand. As we shook hands, I told him my name and why I had come.

"Oh, okay," he said. How much is it?"

I handed him the invoice, which he took back into the office at the end of the hall. After a low exchange of comments, he returned and handed me the invoice.

"We don't need the key any more," he said.

I tried to look astonished at what he had said. "Well, you ordered the work done, and we did it, so you owe us for

our service, regardless," I said sweetly.

"We ordered the work this morning. It's too late now. We've made other arrangements."

I took a deep breath and smiled. "We told you at the time that we'd have to work you in and it might be a while."

"Your man told me he'd have the key made in an hour, and it's been...." he glanced at his watch, "...nearly six hours."

"We told you we'd try to leave the store in about an hour, if the schedule permitted, but that we'd certainly have it for you some time today, and you said there was no rush," I replied. "Besides, the key has been ready for several hours. Didn't you get our message?"

"Look, we've already shelled out over two hundred to get the car back. We're not about to pay you, too," he said, his jaw tightening.


"Well, if that's the case, I guess I'd better get over to the courthouse, before they close. We'll be filing theft-of-services charges against you. That's a criminal offense, you know."

A man in the back office called Employee #1's name. After another brief exchange, they both came to meet me. The business owner introduced himself and went through the same conversation with me again. When we got to the part about Employee #1 telling us there was "No rush," the owner said to him, "I can hear you saying that. You can't do anything right, can you?" Then he went on to tell me how the RV park owner had told him our man had never opened the vehicle or made any keys for it. In fact, he said, he had run our man off and told us not to come back.

"Interesting!" I replied. "Then how do you suppose we came up with this working key?" I showed him the key our man had made."

Without further comment, the car owner turned to Employee #1 and said, "Pay the lady."

While Employee #1 was getting the money to pay me, the owner began to berate him to me, saying he was a lying, no-good-nik, and he often wondered why he kept him on. I did not respond. However, when I had my money and was leaving, I offered my hand to the owner and said, "Tell you what: next time we have business dealings, why don't you and I work out the details and eliminate the middlemen."

The car owner shook my hand and smiled. "That's a deal!" 

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Everything you ever need to know about how to
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interchangeable cores!

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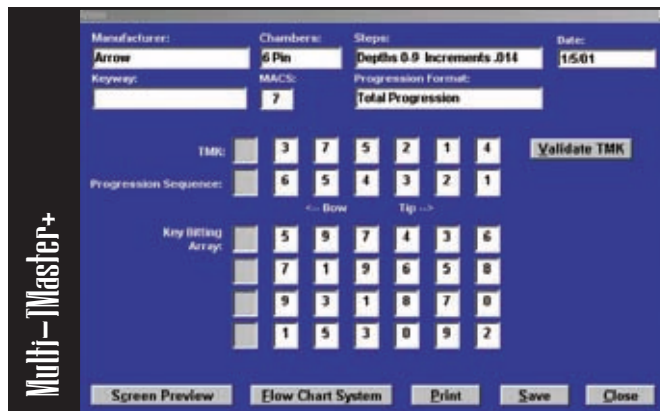




Computer Software Programs

With the phenomenal impact computers have on our lives, it's no wonder that more and more of us find ourselves interacting with one for work and play. Most businesses and a majority of homes now have some degree of computing power and Internet access. More and more of us are finding that a larger and larger portion of our time is being devoted to the computer. 100% of the information you are now holding is computer generated. With that trend, computer software demand is escalating at an alarming rate. That demand transcends to the locksmith industry as well.

Over the course of just a few years, computer software programs specifically written and marketed to the locksmith/security industry has quadrupled. The following is a list of leading software producers and products providing information that is just a "click" away.



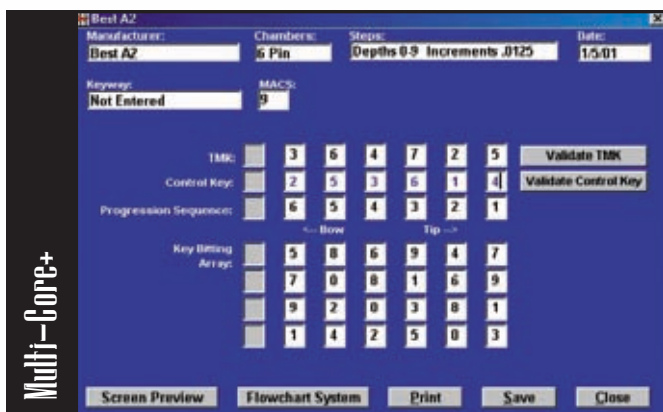
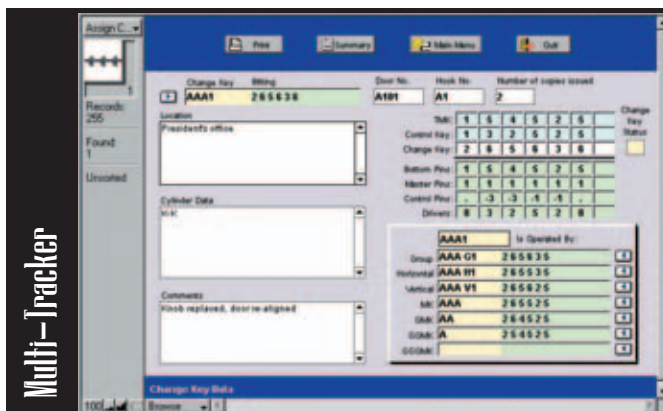
Multi-Master+, Multi-Core+, and Multi-Tracker

Manufacturer: DLA Security Systems, Inc.
Locksmith Price: \$259.00, \$259.00, and \$299.00

Purpose of Product: Multi-Master + is a Windows-based program for creating master key systems for standard cylinders. Also available is Multi-Core + for creating master key systems for interchangeable core cylinders, and Multi-Tracker Master Key System Management software. All three programs run on Windows 95, 98, NT, and ME

Features: Multi-Master + and Multi-Core + allow quick, easy creation of master key systems. Both programs will create the maximum number of change keys available (including all possible master and submasters), and allow you to use whatever portion of the system you wish. You can preview the system on-screen before printing, print any range of MKs, etc. Multi-Tracker is a database for managing as many master key systems as you can create. Enter location data, cylinder data, comments, etc. Systems created with Multi-Master + and Multi-Core + can be easily imported into Multi-Tracker

Demo Available: Yes
Phone: (908) 233-7755
Fax: (908) 233-7755
Web site: www.dlaco.com
E-mail: dlasec@pipeline.com
Circle 202 on Rapid Reply.



Continued from page 72

Lockcodes (Blackhawk's Codes on the Web)

Manufacturer: Blackhawk Products
Locksmith Price: \$49/year

Purpose of Product: Lockcodes is a full code program accessible on the Web through your favorite internet browser. It works with any type of computer or operating system, such as the PC, Mac or Linux.

Features: Lockcodes is easy to run. Select the space/depth you want and type in the code number. On the next screen, choose from the list of series, or select a filter to have a smaller list. Then you'll see the cuts, the blanks to use, and your choice of cutting information (measurements, depth keys, 1200 cards, Framon, Curtis, A-1, Exacta, Codemax, and HPC Punch). You can even print code cards. All updates are done automatically; there are no discs to worry about. The price is less than you would pay for the updates on most code programs.

Demo Available: Yes (at www.lockcodes.com/demo/)

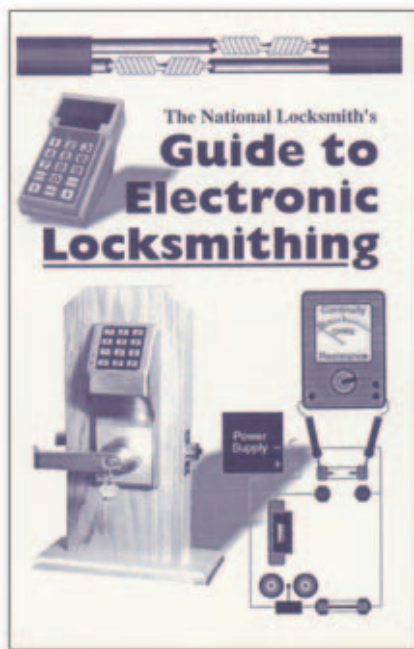
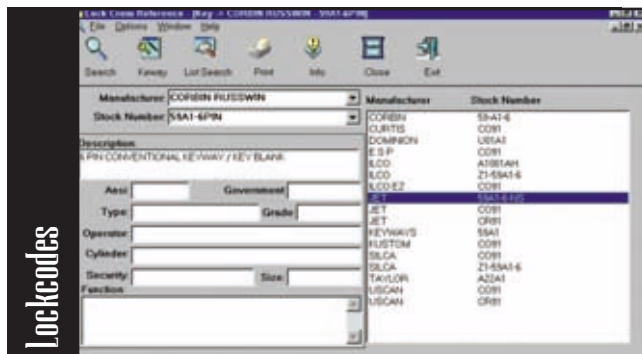
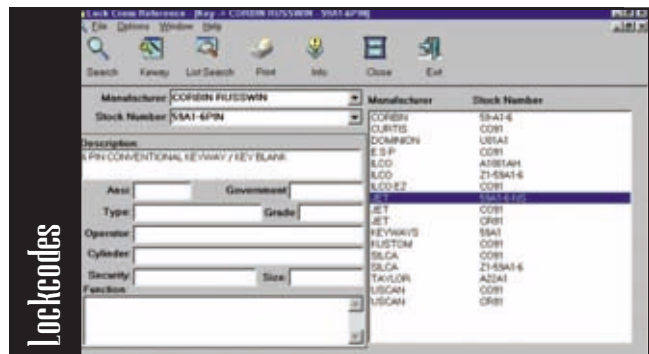
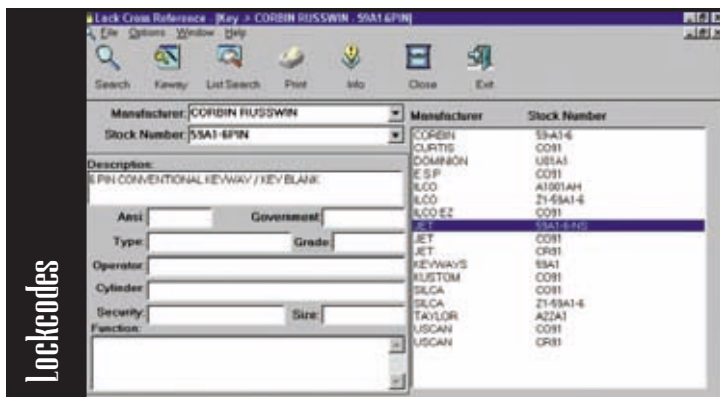
Web site: www.lockcodes.com

E-mail: staff@blackhawk7.com

Phone: (970) 882-7191

Fax: (970) 882-7228

Circle 203 on Rapid Reply.



Electronic Locksmithing

Everyone knows there's big money in selling, installing and servicing electronic security such as mag locks, electronic strikes, and simple access control.

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#EL - 1

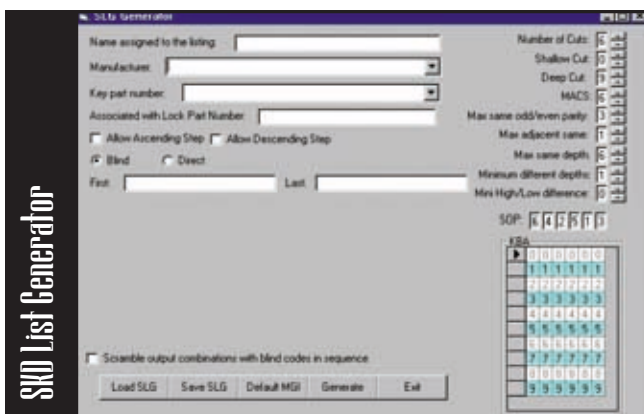
SKD List Generator

Manufacturer:
Locksoft
Stock Number:
SLG
Locksmith Price:
\$149.00
(List \$195.00)

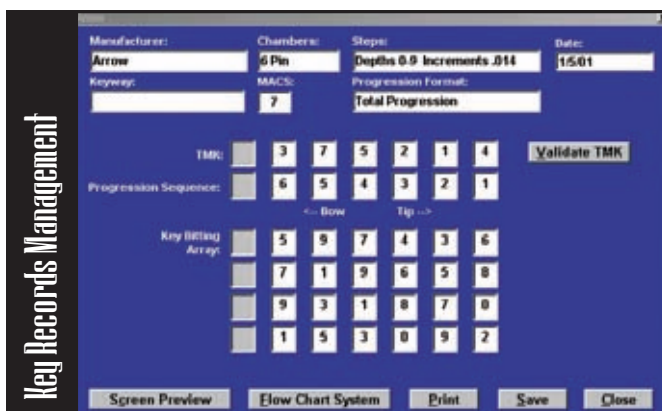
Purpose of Product: SLG generates a list of key combinations for a locksmith to use when rekeying keyed different locks.

Features: SLG allows the locksmith to select from a list of manufacturers to get default number of pins, MACS, etc. They can override any default value, and input his preferences, which even include such things as number of consecutive like cuts and minimum difference between the deepest and shallowest cuts in a given combination. The output may be in the sequence in which they are generated, or in a scrambled sequence.

Demo Available: No
Phone: (402) 461-4149
Fax: (402) 461-4359
Web site: www.Locksoft.com
E-mail: dfriend@Locksoft.com
Circle number 204 on Rapid Reply.



SKD List Generator



Key Records Management

Key Records Management (Windows Version)

Manufacturer:
Locksoft
Stock Number:
KRMW
Locksmith Price:
\$695.00
(List \$995.00)

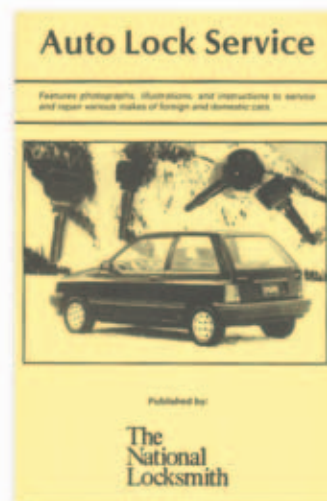
Purpose of Product: This program manages large master key systems. The data it tracks consists of Keyholders and Doors (with association keysets and key bittings). It provides a key issue function, which assigns a given key to a specific Keyholder. Various reports give information on who has which key, who has keys for a given door, and so on.

Features: KRMW tracks door location, keyset, key bitting, and information on the hardware on the door. For Keyholders, it tracks name, department, ID, address and phone number. Several user definable fields are available for other information. Three levels of password are available. The master password can allow or disallow the lower passwords access to bitting information, or to modify (in addition to viewing) data. KRMW will calculate a pinning chart for a selected key in the system. When it does, if the combination is marked as cross keyed, it will check for any other keys in the system that operate it.

Demo Available: Yes
Web site: www.Locksoft.com
E-mail: dfriend@Locksoft.com
Circle number 205 on Rapid Reply.

Continued on page 78

Auto Lock Service



Covers opening and service techniques.

CLICK HERE TO LEARN MORE



#ALS - 1

Continued from page 75



Live Action Learning Software Series.
How to Pick Locks, How to Pick Tubular Locks,
and How to Re-key Cylinders.

Manufacturer: HPC
Stock Number: HT-PLX1, HT-PTL1,
 and HT-RKC1
Locksmith Price: Call for Pricing

Purpose of Product: HPC's Live Action Learning Software Series is a collection of interactive guides on CD-Rom for your PC or Mac Computers. This powerful multi-media collection will teach you how to pick and re-key locks like an expert in no time at all.

Features: HPC's Live Action Learning Software Series is a powerful set of new interactive training tools. Loaded with informative audio, video, animation, photography and illustrations that clearly and concisely take you through the essentials of the security industry. You move at your own pace while learning to pick and re-key pin and disc tumbler locks, as well as pick tubular locks. Perfect for all your training needs.

Whether you are new to the industry, want to brush-up your skills, or are in charge of training new security specialists, the Live Action Learning Software Series is ideal.

Demo Available: Yes
Phone: (847) 671-6280
Fax: (847) 671-6343
Web site:
www.HPCworld.com
E-mail:
HPC@HPCworld.com
Circle number 206 on
Rapid Reply



AutoSmart Advisor

Manufacturer: National Publishing Company
Stock Number: ASA-2000
Locksmith Price: \$395.00



Purpose of Product: AutoSmart Advisor provides complete specifications for virtually every car on the road. This allows locksmiths to easily make the first key and quote the job.

Features: AutoSmart Advisor has many features designed to allow quick reference by the locksmith. Look up vehicles by make, model, and year. Then view all specs for the car including every known part and key blank, cross-referenced by manufacturer. You can even allow the program to calculate all your price estimates since parts and labor times are included. Now, anyone can quote the automotive jobs accurately and instantly.

Demo Available: Yes
Phone: (630) 837-2044
Fax: (630) 837-1210
Web site: www.AutoSmartAdvisor.com
E-mail: Natllock@aol.com
Circle number 210 on Rapid Reply

Continued on page 80

Continued from page 78

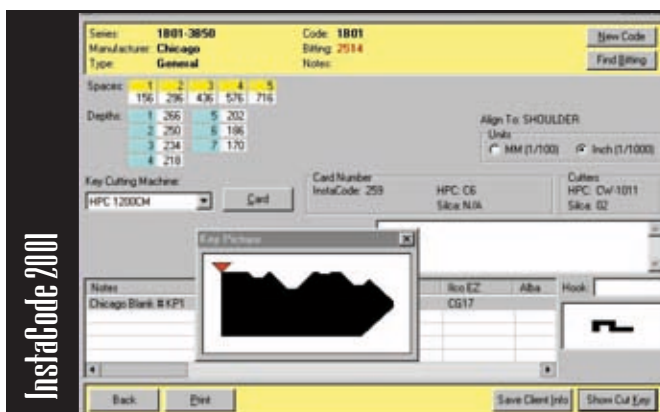
InstaCode 2001

Manufacturer: National Publishing Company
Stock Number: IC-2001
Locksmith Price: \$695.00

Purpose of Product: InstaCode 2001 is an extremely fast and powerful locksmith code program.

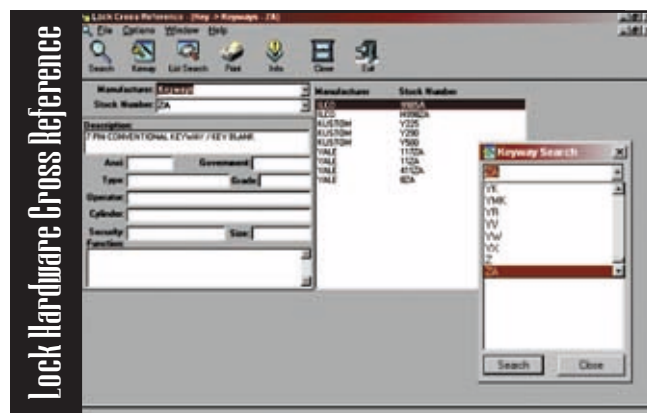
Features: InstaCode 2001 allows users to look up vehicles by make, model and year. Over 2,220 models are listed. The key blank cross-reference contains many thousands of blanks making it very useful. Virtually all codes series for shop series, furniture, cabinets and padlocks are also included. Works with any code machine, manual or even computerized. Allows users to print their own code books, code cards for the HPC 1200CM and 1200PCH. InstaCode 2001 also finds missing cuts, does instant progression, saves customer data in your own database, and much more.

Demo Available: Yes
Web site: www.TheNationalLocksmith.com
E-mail: Natllock@aol.com
Circle 207 on Rapid Reply



Lock Hardware Cross Reference

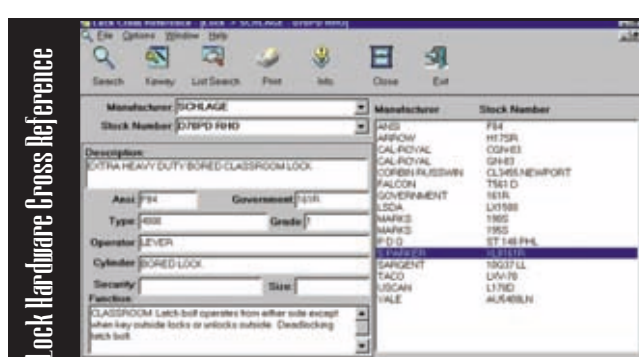
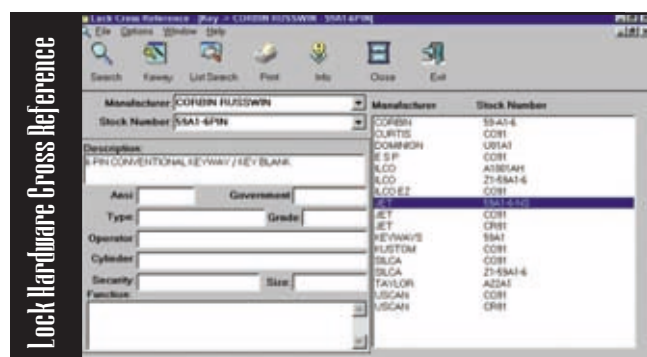
Manufacturer: Dalax, Inc.
Stock Number: 2
Locksmith Price: \$355.00



Purpose of Product: To assist Locksmiths and Hardware Consultants to find same or equal substitutes when product is not competitive or readily available. For identification of keyways and key blanks from markings on original manufacturers keys.

Features: User-friendly software. Windows 95/98. Included are Comparisons of Locks and designs, Panic Exit Devices, Keys, Cylinders, etc., taken from 88 manufacturers. A full description of product functions, ANSI and Government numbers and UL (or other approved testing firms) ratings. Key blank cross-reference based on Original Manufacturers numbers. Aftermarket keys are noted when available. Various High Security ratings on cylinders are listed. Extensive listing of interchangeable core products.

Demo Available: Yes (at www.simon-says.net)
Phone: (972) 234-8009
Fax: (972) 234-0339
Web site: www.simon-says.net
E-mail: simon@simon-says.net
Circle number 208 on Rapid Reply.



2001 CAR OPENING

WITH PRO-LOK



2001 UPDATE

HONDA



VEHICLE: CIVIC 4dr/Wgn YEAR: 2001
 LINKAGE: HORIZONTAL
 PICK: CCW
 TOOL: AO-41 "Behind the Glass Tool"



PREFERRED OPENING METHOD




1. Insert an AO65 Pump Wedge 14" from the front edge of the window glass of the rear passenger door. Inflate the Pump Wedge. Insert an AL3900 inspection light 13" from the front edge of the window glass and identify the lower horizontal rod. The weatherstripping is not very tight and is extremely workable and has a roomy door cavity to work comfortably.
2. Insert the small squared end of the AO41 9-1/2" from the front edge of the window glass, tip facing rearward.
3. Lower the AO41 9" into the door cavity. Rotate the AO41 90° clockwise.
4. Lift up 1/2" then lower the AO41 until the tip of the tool sits on top of the lower horizontal rod. Twist the tool counterclockwise to bind the rod.
5. Pivot the handle of the AO41 rearward to push the rod forward to unlock the car.

ALTERNATE OPENING METHOD - AO34 "MCOT-NARROW"




1. Insert an AO65 Pump wedge 13" from the front edge of the window glass of the rear passenger door. Inflate wedge.
2. Insert an AO34 5" from the front edge of the window, tip facing forward. Lower the AO34 12" into the door cavity and rotate it beneath the bottom edge of the window. Deflate wedge.
3. Lift the AO34 gradually working the tip of the tool into the vehicle interior. Rotate the tool 45° counterclockwise. Position the tip of the tool in front of the inside lock-unlock button.
4. Rotate the AO34 to bind the tip of the tool onto the lock-unlock button. Lift button slowly to unlock the door.

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 #MACBUP2001

HONDA - PAGE 53

Civic 4dr/Wgn

Opening cars is a lucrative service that locksmiths offer and the public expects the professional locksmith to be professional in appearance and to be equipped with professional tools. It is also important that you are armed with the information you need to perform the car opening procedure in a safe, quick and damage free manner.

PRO-LOK offers quality tools to help you open the car safely and professionally. The Car Opening Manuals that you use are just as important as the tools you choose. A good quality manual allows you to review the car before you attempt to open it. This allows for a safer, quicker, more professional opening.

PRO-LOK's 2001 Car Opening Update (Part # MACBUP2001, priced at \$35) is now available. This unique and helpful update for the 2001 vehicles is printed with a one-page format with three full color photographs per vehicle. The third photos



2001 UPDATE

DODGE



VEHICLE: VIPER
LINKAGE: VERTICAL
PICK: CW Rear Hatch
TOOL: AO-42 "Long Reach Tool"



PREFERRED OPENING METHOD



1. Insert an AO65 Pump Wedge at the top curved, front edge of the window glass of the passenger door. Inflate wedge.

2. Insert the AO42-SL "Long Reach Tool Sleeve" 9" from the rear edge of the window at the top, between the edge of the window glass and the soft top, leaving the flaps of the sleeve protruding from the opening. Separate and fold the flaps of the sleeve back around the edge of the window and the soft top to create an opening for the AO42 tool.

3. Carefully insert the "L" shaped end of an AO42 through the AO42-SL and into the vehicle, tip facing down.

4. Reach the AO42 16" into the vehicle interior.

5. Reach the AO42 tool along the passenger door to the emergency pull handle on the



6. Rotate the tip of the tool to the 6 o'clock position.

7. Seat the tip of the AO42 tool over the emergency pull handle located in the door frame.

8. Move the AO42 rearward so that the pull handle swings out from the door frame. If the tool slips off, go back and try again until the door opens. (This emergency handle is awkward to reach, but the easiest entry method.)

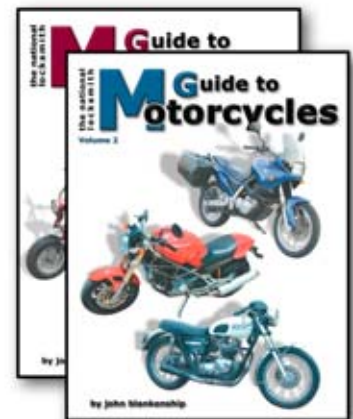
9. Grasp the outside door handle and pull as you activate the emergency release mechanism, as the release will not open the door, just unlatch it.

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#MACBUP2001

DODGE - PAGE 50

Viper

Guide to Motorcycles Vol. 1 & 2



For years locksmiths have begged for a comprehensive service manual on motorcycles and its finally here!

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pages included in the update show you what is new and which vehicles remain unchanged this year.

Vehicles that are equipped with side impact air bags have been given careful consideration. All vehicles can be opened with confidence. The company's opinion is that these cars are as safe as ever to open. With only a few exceptions, vehicles that are equipped with side impact airbags so not have the airbag or sensors anywhere in the door. These components are typically found in the frame, pillars and seats. In the rare instance where the airbag is located in the door, the airbags have been found to be completely protected against opening tools.

It is PRO-LOK's opinion that the chances of damaging a vehicle by external opening methods far outweigh the chance of causing damage with traditional door cavity methods. As opposed to one method fits all, or methods that could cause damage to the doors or paint, the update concentrates on professional and safe door cavity or inner door panel opening methods.

Sieveking Auto Key Guide



The Sieveking Auto Key Guide lists over 2,600 automotive and motorcycle keyways, covering makes from Acura to Zundapp, and listing fourteen popular key manufacturer numbers.

CLICK HERE TO LEARN MORE



#AK - 1

Photo #1

Photo #2

Photo #3

Photo #4

Photo #5

2001 UPDATE

DODGE

Technician working on Viper.

Working on the Viper can be quite intimidating to some, especially when you realize that this is a \$95,000.00 vehicle. We exercised great care. (See photo #1).

There are no keyed locks on the doors of this vehicle. (See photo #2). The only keyed exterior lock is located at the rear of the car on the hatch. The only way for the owner to unlock this vehicle is with the keyless remote, or to unlock the hatch with the key, climb through the car and pull the emergency release lever on the upper door panel.

After removing the door panel (see photo #3) we discovered that the inside pull-handle would not open this vehicle as the pull handle is attached to an all electric solenoid (see photo #4-photo of front side of the pull-handle and electric cable and photo #5-photo of back side of the pull-handle showing solenoid) which will only activate the pull-handle when power is supplied.

We used, all this information to come up with a unique opening method for this car. We used just the "L" section of our AO42 "Long Reach Tool" and it worked beautifully.

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#MACBUP2001

DODGE - PAGE 51

Viper

A new feature offered in the PRO-LOK update this year is an alternate method is given when possible. You can use the alternate method if you don't have the tool used in the primary method, or in case you experience difficulties using the primary method. The alternate method, when applicable, features two photographs and instructions on the same page as the primary method.

Following are sample pages from the PRO-LOK 2001 Update. We'll look at three interesting models: 2001 Honda Civic 4dr/Wgn, Pontiac's 2001 Aztek, and Dodge's 2000 Viper.

For more information, contact: PRO-LOK, 655 North Hariton St., Orange, CA 92868. Phone: (714) 633-0681; Fax: (714) 633-0470; E-mail: mail@pro-lok.com; Web: www.pro-lok.com. Circle number 209 on Rapid Reply. **TNI**

Cal-Royal • GRADE 1 • Lever Locks

Cal-Royal makes a clutch style key-in-lever lockset in grade 1 that is actually available in three different lever designs and five standard finishes. The standard available finishes are: Satin Chrome (626/US26D), Oil Rubbed Bronze (613/US10B), Polished Chrome (625/US26), Polished Brass (605/US3) and Satin Bronze (612/US10). Locks are available in other finishes, but only by special order.

Photograph 1, shows a Cal-Royal grade 1 lock with a GN design lever. The lock is adjustable for door thickness range of 1-3/8" to 1-3/4". A label indicating how to adjust for door thickness can be seen on the lock in *photograph 2*. The outside lever must be removed to make the adjustment.

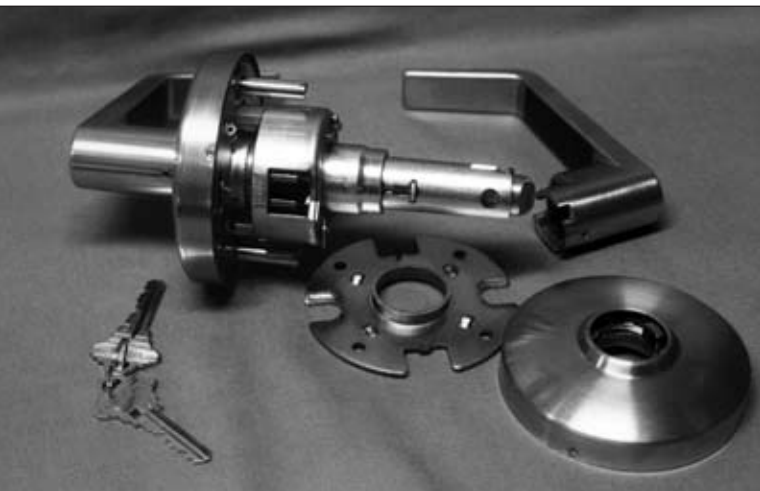


by
Sal Dulcamaro,
CML

(See *photograph 3*.) The outside rose assembly is then removed. (See *photograph 4*.) I'm holding the outside plate in *photograph 5*. This plate is normally turned clockwise to tighten (for thinner doors), or turned counterclockwise to loosen (for thicker doors) if it was previously adjusted for a thicker door.

Installing the Lock

Like most commercial grade key-in-lever locksets, you must add additional holes to the standard door prep where a knob lock was previously installed. *Photograph 6*, shows the two additional mounting holes required. They are 5/16" in diameter and are located just above and below the main crossbore hole. In *photograph 7*, a side view shows the mounting posts above and below the lock body being inserted through the drilled openings in the door. The latch retractor mechanism of the lock body will engage the latch during assembly. The inside plate is in position to fit under the rose insert. *Photograph 8*, shows the inside part of the lock with



1. A Cal-Royal grade 1 lock with a GN design lever.



2. The label indicating how to adjust for door thickness.

3. The outside lever must be removed.



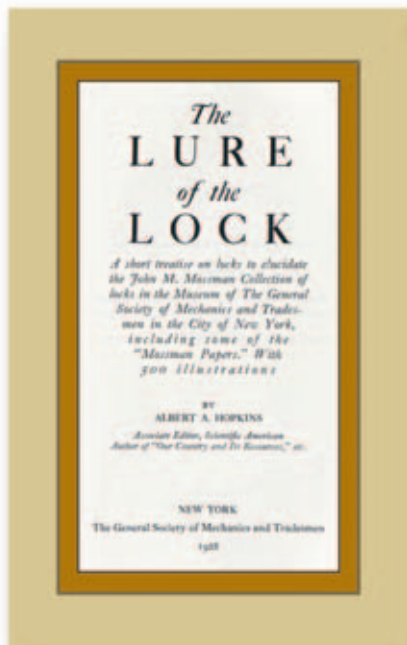
4. The outside rose assembly.



5. The outside plate.



6. Two additional mounting holes required.



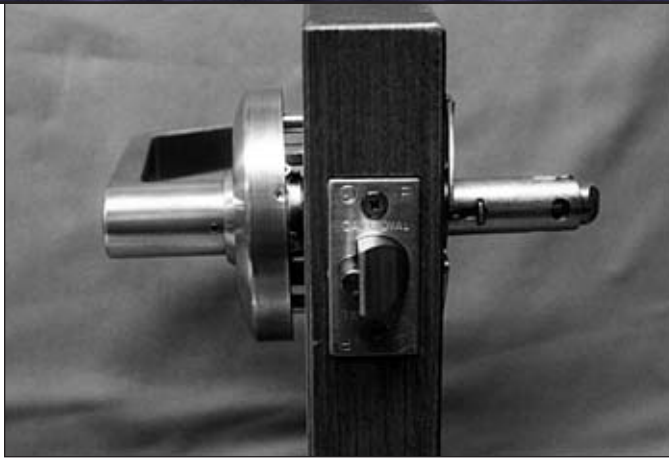
The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE



7. The mounting posts above and below the lock body.



8. The inside part of the lock with the rose insert in place.



9. The inside rose conceals the screws.



10. The inside lever is installed.



Modern Safe Opening

This book is a step-by-step How-To course in safe penetration. Opening safes is one of the most profitable aspects of the locksmithing business.

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#MSO - 1



11. The lock completely assembled.



12. the lever turned with the unit locked.



13. The only way to retract the latch when locked is with a key.



14. The same basic lock is also available in IC format.

the rose insert in place and mounting screws at the top and bottom almost completely tightened.

After the screws are tightened, the inside rose is fit over the top to conceal the screws. (See *photograph 9.*) Finally, the inside lever is installed in *photograph 10.* The lock completely assembled is shown in *photograph 11.*

Lock Operation

The Cal-Royal grade 1 lock has a clutch style lever. Because of the inherent extra leverage found in lever handle locks, it is possible to exert a great deal of force on the handle without special tools. To minimize the likelihood of handle breakage caused by vandalism or an attempted break-in, the outside lever handle has a

clutch. When the unit is unlocked, the outside lever handle will operate normally to retract the latch. When it is locked, the movement of the outside handle is disengaged from the operation of the latch. *Photograph 12,* shows the lever being turned while the unit is locked. The handle moves downward but the latch remains extended. The only way to retract the latch in this mode is to use the key. (See *photograph 13.*)

The Interchangeable Core Version

The standard Cal-Royal lever handle lock uses a regular pin tumbler cylinder with one of many different popular commercial keyways. If not otherwise requested, a Schlage "C" style keyway is included with the lock.

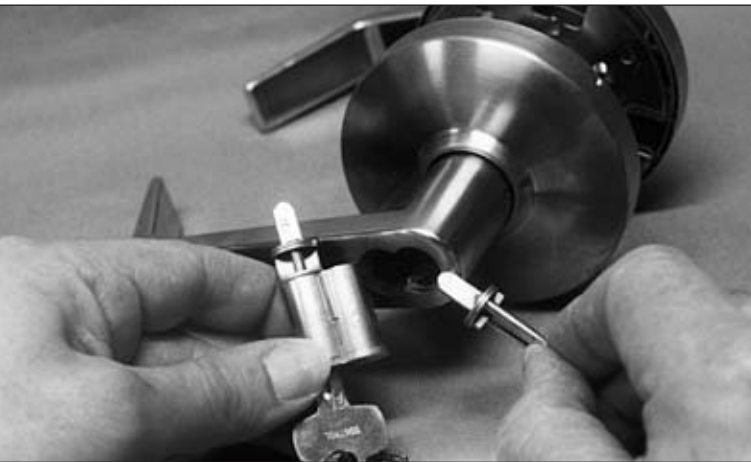
The same basic lock is also available in IC format shown in *photograph 14.* It should accept most Best type (also known as Small Format IC/ SFIC) I-Cores. This lock does not use permanently fixed drive pins to engage the drilled holes of the I-Core. Instead there are two different length adaptor drive pin tailpieces. (See *photograph 15.*) The longer tailpiece is for 6 pin I-Cores, while the shorter one is for 7 pin I-Cores.

Photograph 16, shows how the drive pin(s) end of the tailpiece fits into the two drilled holes in the back of the 6 pin I-Core. *Photograph 17,* shows the comparative length difference of the shorter (not attached) tailpiece which is needed when a 7 pin I-Core is used. If you have a customer that installs and

15. There are two different adaptors.




16. The tailpiece fits into two drilled holes in the back of the core.

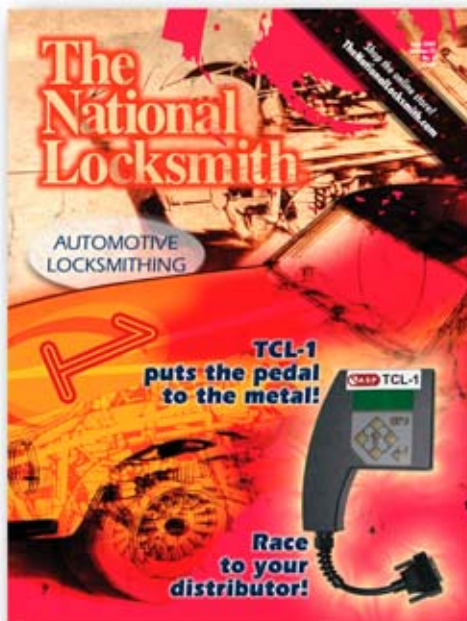


17. The shorter tailpiece is needed when a 7 pin I-Core is used.

removes his or her own I-Cores with a control key, you may want to make sure that they are comfortable with the slightly different feel of a lock without permanent drive pins.

When the I-Core is pulled with the control key, the tailpiece may or may not come out with the I-Core. If the drive pin tailpiece remains inside the "figure 8 shaped" profile cavity, it is sometimes a bit awkward to line up the holes of the I-Core with the protruding drive pins of the tailpiece. You may find the need to pull out the tailpiece adaptor, and then attach the tailpiece to the I-Core to re-insert it with the control key.

For more information contact: Cal-Royal Products, Inc., 2110 Tubeway Ave., City of Commerce, CA 90040. Phone: 213/888-6601. FAX: 800/222-3316. Circle 318 on Rapid Reply. 



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Vindicator Red

Opening a Vindicator controlled safe can be easy, but more often it is a real “Ball Buster.” However, opening a Vindicator may be easier than repairing it, for parts and boards for the Vindicator 1 are non-existent.



by
Dale W. Libby, CMS

The first safe I worked on with a Vindicator lock is shown in *photograph 1*. It was an Allied Gary unit used in many Taco Bell stores. It was also a retrofit, so opening it did not offer a real challenge. The Vindicator used on this unit was perhaps 10-years old, and the Type I variety.

A large warning label was placed over the location of the old dial and dial ring. The actual hole for the dial spindle was welded during the retrofit. Luckily, the dials threaded mounting holes were left, but were somewhat ragged. The front of the safe can be seen in *photograph 2*.

The first thing I did was to run an 8/32-inch tap down the dial ring mounting screw holes to clean them up. I then attached the StrongArm Mini-Rig to the safe as shown in *photograph 3*. On most high security safes, the LaGard 3600 spring bolt lock is mounted either vertical up or vertical down (VU or VD). If we had been able to look down the spindle hole, we would have seen the cable going up to the top of the lock. This means that the lock is mounted Vertical Down.

Since all units of this type have the lock mounted Vertical Down, it was a good bet that the spring bolt lock was also mounted the same way. To correctly drill for the solenoid on these locks, you must know where the flat side of the lock bolt is, for that is the side the solenoid is on.

On all safes with the lock mounted VU or VD, the flat side of the bolt is always toward the opening edge of the door. Since the door opening on the Allied Gary was on the left, the flat was to the left, the solenoid is to the left, and the hole on the template for LaGard Locks can be either left or right. I used the left hole, and the safe was open in 37 minutes: Start to finish.

I discussed the retrofitting of a new Vindicator versus the



1. Allied Gary TL15 with Vindicator installed. A large red warning sign was placed where the dial and dial ring would normally be.



2. Warning label removed. The dial spindle hole was welded.

purchase of a new safe with the lock already installed. The franchise is thinking about it.

The very next day I was asked by a friend to finish opening a Vindicator that he had started, but didn't have the time to finish opening. The warning bells should have been ringing, but I did not hear them. He stated that he had already put a hole into the lower door of the unit, but he could not get it open. Since there was a hole in the door already, I said that I would come out and try to open it, and give it the Old College \$250.00 try.

The safe/money chest in question is shown in *photograph 4*. At least the top door is. Above the handle there is no dial. To the left of the handle and above it is the Vindicator keypad installed upside down.

Photograph 5, shows the lower door that I was supposed to open. The hole was originally drilled by my friend, a knowledgeable safecracker in his own right, but somehow he was a little too low, about 1/4-inch. He did manage to get the solenoid pin removed, but the spring bolt of the lock would not rotate. There was too much debris and Swaf inside



3. Mini Rig template installed in old dial ring attaching screw holes.



4. American Security Products TL30 door with Vindicator II installed.

AutoEdge



This CD contains over 1,000 pages of automotive locksmith service.

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#AE - CD

the lock and the bolt was blocked or wedged into a position where it would not move.

I spent three hours on in this location and wasted six hard plate drill bits. There was a respectable ball bearing matrix to contend with that I used my "Ball Buster" carbide bit on to no avail. Before writing what I should have done, I would like to point out that there were many distractions while I was trying to open the money chest. Yes, I did bang on the handle lightly, but with a two-stage boltwork, not much force was applied to the combination lock bolt.

The unit was built into the wall at the rear of the highly used and well-trafficked service office of a large Jewel/Osco store. There was no end of people who wanted to give me suggestions on how to open the unit, as they were stepping around, above, and on me to get to their computer consoles, fax machines, and numerous papers. To make things crazier, I was put on three conference calls with people I did not know, who were accusing me of working without authorization.

The Jewel/Osco head of building maintenance, the head of Security, and the Representatives from American Security Products were all yelling at me. One computer geek stated that he could get the unit open through a secret back door. I told him that the Vindicator panel was installed upside down and he had an attack.

He told me to remove the panel and reconnect the board, and he would get it open. When I removed the panel, I told him that all the wires located behind the control panel were melted and fried. The keyboard would not light up at all. He



5. Lower door that needed to be opened. Primary hole was a little too low.

then told me, he was 'powerless' to help me if the panel would not display anything. More complaints, more yelling. I smiled, packed up my many toolboxes and left.

I then started receiving calls to my personal unlisted phone number from many different people begging (and at the same time threatening) me to go back and open the safe. Delete, delete, delete. I had enough. I needed time to



2002 AutoSmart™

Major changes, additions and revisions to the AutoSmart Book™ have been made, and the 2002 AutoSmart™ is now available!



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reconsider my actions and my priorities. If I had quoted the safe opening from the beginning, from my company, the opening would have approached \$800.00 or more. I had an hour plus drive to get to the location before I started to work. That time must also be figured in. Never sell yourself short.

I received feedback from several safecrackers, and I will paraphrase the answers here. This is important stuff that sometimes I forget:

"First and foremost, never let the customer or NSP (National Service Provider) set your price, especially on warrantee work. Always have a backup who will pay if the NSP, factory, or manufacturer does not pay. This is a must!"

"Dale, drilling a LaGard swing bolt and not having it open is a tough problem. Drill shavings (Swaf) may, or will, fall down onto the swing bolt and cause it to keep jamming and not swing open. I have also found and fought for several hours when a piece of shaving found its way to where the flat spot of the swing bolt contacts the lock case and then works its way down between the edge of the bolt and the case notch. This makes the lock seem still locked in a cantilever leverage sort of way."

"I personally have never gotten one of these locks to unstick once this has happened. When the bolt is relaxed, the bolt spring holds the shaving in place. When you start to turn the handle, the shaving is caught by that back pressure and the crack between the bolt and the case is not enough to allow the chip to work its way through."

"One time I drilled away the locking notch at the side of the spring bolt that was a real pain. Another time I

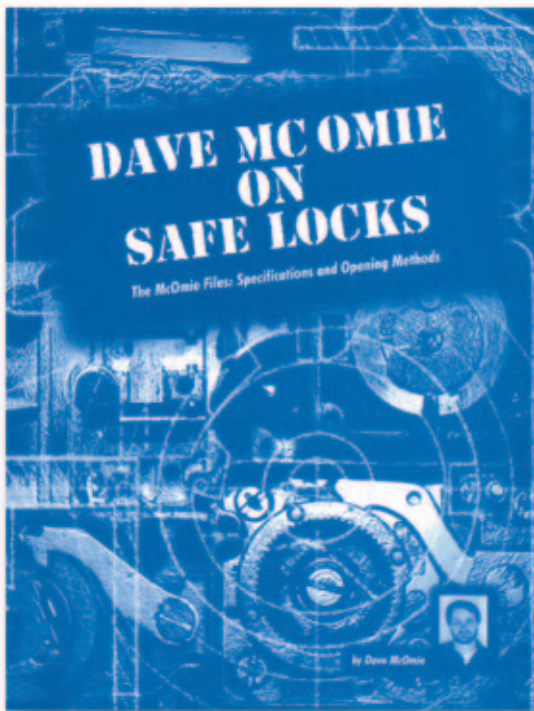
opted for drilling the pivot piece for the bolt, and on a smaller TL15. I did a "Richardson" and top drilled the lock, drilled through it to the bolt (offset hole, not at the lock centerline) and smashed the bolt downward out of the lock case."

"Any way you approach the problem, it is not easy. For you always try the easy way first and drill the solenoid pin, which sometimes results in massive time and labor drilling a second hole in the barrier material to unstick the swing bolt. And then the customer or the factory cannot seem to understand why they are not getting the lock back undamaged for warrantee purposes instead of a box of shavings and small unidentifiable parts."

If I had drilled the lock in the wrong place to begin with, then I might have to stay and fix the problem, or if I had caused the problem. But when following someone else's work, if I do it at all, then who is going to pay, is most important to me. Ken Doyle has a great form that he uses that the end user (customer) signs promising payment if the NSP stiffes him. Again, do not let anyone else set your price or even a limit to your price.

In the end I never did open this unit. I spent an allotted amount of time according to what I was being paid and left. Had I continued I would not have been compensated for the additional time spent and opted instead to leave, especially after I received grief from all parties involved. Sometime things just don't go as planned and you have to know when to call it quits.

Until that time, OPEN, set your own prices (open ended) and prosper! **TLL**



Dave McOmie on Safe Locks

Almost 300 pages of information, photographs and illustrations give you every scrap of information about a huge variety of safe locks.

[CLICK HERE TO LEARN MORE](#)

#DMSL - 1



THE CASH STATION

by Mark Daniel

Skilcraft Night Depository

Manufacturer

Skilcraft Night Depository

UL Rating:

TL 15 (square door)

Door Size:

23-7/8" wide by 28-3/4" high.

Handle Type:

L-style



Handle Location:

16-1/2" down, 7-1/2" right of opening edge of door.

Handle Rotation:

Clockwise to open

Dial Location:

11-1/2" down, 7-1/2" right of opening edge of door.

Number of Door Locking Bolts:

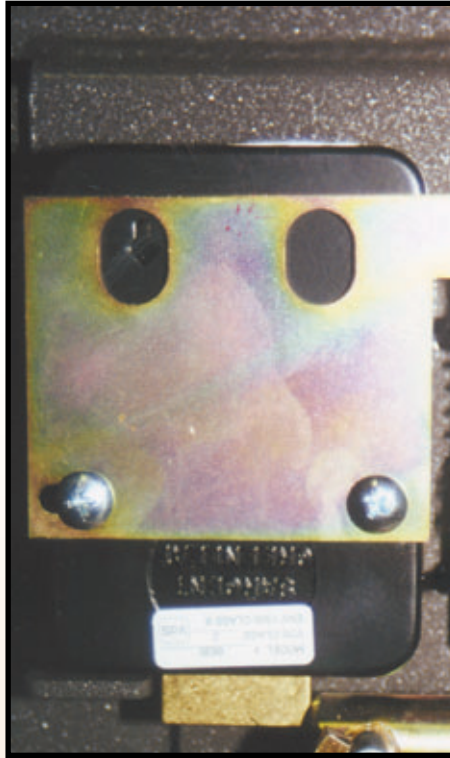
3

Door Locking Bolt Locations:

5-1/2", 14-3/8", 23-1/4" down from top of door.

Door Locking Bolt Diameter:

1"



Skilcraft Night Depository

Door Thickness to Bolt Center:
2-1/8"

Door Thickness to Lock Case:
1-9/16" from door front.

Door Thickness to Back of Lock:
2-11/16"

Combination Lock Type:
Sargent & Greenleaf 6630

Combination Lock Description:
Class 2, three wheel, key changeable combination lock.

Combination Lock Case Thickness:
1-1/8"

Number of Wheels:
3

Driver Location:
Rear

Combination Lock Handing:
Vertical Down (VD)

Drop-In Location:
72

Forbidden Zone:
0 - 20

Combination Lock Opening Procedures:
4xL to first number.
3xR to second number.
2xL to third number.
1xR until dial stops.

Combination Lock Drill Point:
7/8" from dial center at 72. Align wheel gates at lever fence.

Combination Lock Relock Trigger Type:
Lever style spring-loaded arm that drops in lock bolt slot when lock cover is removed.

Combination Lock Relock Trigger Drill Point:
5/8" down from dial center, 15/16" right of dial center.

External Relock Device Type:
Spring-loaded pin.

External Relock Device Drill Point:
1-3/4" left of dial center and 2-1/2" down from dial center. Lift up relocker with a pick.

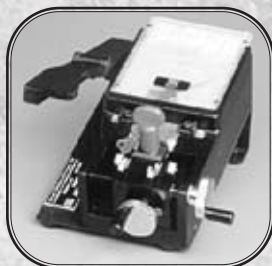
TECHNITTIPS

YEAR-END PRIZES



Grand Prize

Silca Bravo Duplicator



1st Prize

HPC's 1200PCH
Punch Machine



2nd Prize

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PowerLever 2000



3rd Prize

Curtis 2200 Duplicator



4th Prize

SDC Magnetic Lock,
Keypad and Exit Switch



5th Prize

Securitron 12-Volt Unlatch Plug in
Trans & Touchpad Retail Value \$650



6th Prize

LaGard "SmartGard"



7th Prize

Detex Advantex



8th Prize

Arrow 400 Series Alarmed
Exit Device & S-75 Mounting
Plate Kit for Narrow Stile
Aluminum Doors



9th Prize

\$500 in BWD Products



10th Prize

\$500 in ASP Auto Locks



11th Prize

\$500 in Strattec Auto Products



12th Prize

Tech-Train "Jiffy Jack"



13th Prize

Sargent & Greenleaf 6120
Electronic Safe Lock



14th Prize

High Tech Tools
2000 Pro Set



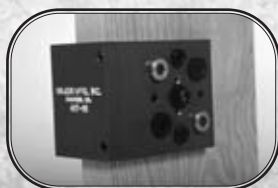
15th Prize

Slide Lock's Master "Z" Tool Set



16th Prize

ESP Products Sampler



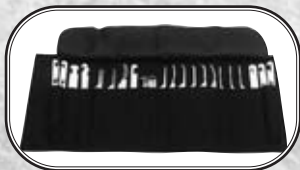
17th Prize

Major Manufacturing's
HIT-111 Drill Guide



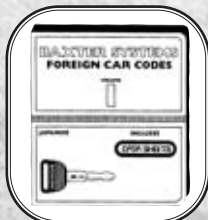
18th Prize

Abus Padlock's Marine
Padlock Display (\$120 Retail)



19th Prize

MBA USA, Inc.
Falle Pick Set



20th Prize

Baxter JV-1 & JV-5
Code Books



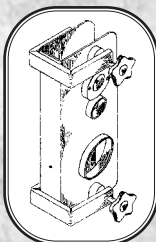
21st Prize

Sieveking Products
Squeeze Play



22nd Prize

Rodann's RV500 Wireless
Door Annunciator System



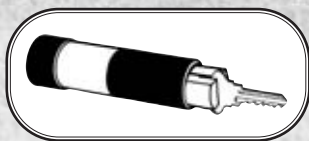
23rd Prize

A-1 Security Manufacturing
Installation Jig



24th Prize

Keedex Sampler



25th Prize

Framon
Impressioning
Handle



26th Prize

Gator Tool Multi-Purpose
Facecap Tool

These Prizes Awarded Each Month!

- BWD Automotive Ford or GM KwikIt
- Wedgeco™ Key Extractor Kit
- Strattec Racing Jacket
- HPC Air Wedge™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- ILCO Key Blanks (100 Blanks)
- Keedex "SPIN OUT" Screwdriver
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
- Jet Key Blanks (100 Blanks)
- High Tech Tools
- LaGard Combo Guard

Send in your tips, and win!

How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

Jake Jakubowski, Technitips Editor,
The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861

Or send your tips via
E-mail to: Natllock@aol.com

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If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

Tips Start
on Next Page





**ILCO KEY BLANKS
WINNER:
Handy Reference
Chart**

I made up the following charts of the most common automotive depths and spaces that I use. These charts save me the necessity of repeatedly looking up the information in my Framon book. (See illustration A.)

If you make up a similar set of charts, you can either laminate them back-to-back or use a sheet protector or a plastic sign holder.

*Adrian Slater
Virginia*



**BWD KWIKIT WINNER:
Employee Cylinder**

There seems to be a great deal of renewed interest in creating a lock cylinder that will only operate in one direction. Similar to the old Binks cylinders where would one key could only lock or unlock the cylinder and the other key would be able to perform both functions.

A Few Words From Jake...

O.K.! The 21st of March is the official start of spring.

Traditionally, spring brings out the poets, pundits, and promises of an end to all the nasty weather we've been having since sometime back in November.

With regards to this column and the rituals of spring, I offer the following:

Spring is sprung...

The flowers' is riz!

But, tell me now:

Where yur tip iz?

O.K.! So I'm not a poet. However, I think you get the message. If you do, sit down and drop me a note about the neat ways you save time, make your job easier, or how you solved a particular problem.

I know you've been meaning to get a tip sent in, but since you haven't yet, I want you to look in the magazine and see what you are missing in the way of prizes.

When you send me your tip, don't forget to send me your name and physical address as well, and not just an e-mail address!

See y'all next month!



*by Jake
Jakubowski*

CYLINDER AND DOMESTIC AUTOMOTIVE

KWIKSET		KWIK		SCHLAGE		SC1		YALE		Y1		WEISER		WRS		KWIKSET TITAN		A11768T	
SHOULDER		MACS = 5		SHOULDER		MACS = 6		SHOULDER		MACS = 5		TOP SHOULDER		MACS = 6		SHOULDER		MACS = 5	
SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH
1 .247	.329	1 .231	.320	1 .200	.301	1 .237	.297	1 .097	.329	2 .397	.306	2 .397	.279	2 .247	.306	3 .397	.283	4 .547	.260
2 .397	.306	2 .387	.305	2 .365	.282	2 .393	.279	2 .247	.306	3 .547	.261	3 .549	.261	3 .397	.283	4 .547	.260	5 .697	.237
3 .547	.283	3 .543	.290	3 .530	.263	3 .549	.261	3 .397	.283	4 .705	.243	4 .705	.243	4 .547	.260	5 .697	.237	6 .847	.214
4 .697	.260	4 .700	.275	4 .695	.244	4 .705	.243	4 .547	.260	5 .861	.225	5 .861	.225	5 .697	.237	6 .847	.214	7 .997	.191
5 .847	.237	5 .856	.260	5 .860	.225	5 .861	.225	5 .697	.237	6 .1017	.207	6 .1017	.207	6 .847	.214	7 .997	.191	8 CUTS	.171
6 .997	.214	6 1.012	.245	6 1.025	.206	6 1.017	.207	6 .847	.214	7 .189	.189	7 .189	.189	7 .997	.191	8 CUTS	.171	9 .080 WIDE	.153
7 .191	.191	7 .230	.171	7 .187	.171	7 .189	.189	7 .997	.191	8 .171	.171	8 .171	.171	8 .997	.191	9 .080 WIDE	.153	0	.315
8 CUTS	.171	8 .215	.171	8 .168	.171	8 .171	.171	8 .997	.191	9 .080 WIDE	.153	9 .080 WIDE	.153	9 .997	.191	0	.315	0	
9 .080 WIDE	.153	9 .200	.171	9 .149	.171	9 .080 WIDE	.153	0		0		0		0		0		0	
0		0 .335	.171	0		0		0		0		0		0		0		0	
CHRY 68-88 Y148/152/153																			
EP / ES 0001-3000		Y148/152/153		CHRY 90-92 Y154		Y155/Y157		CHRY 93-97 Y158		Y159		JEEP		RA3/RA4					
SHOULDER		MACS = 5		FOROSPINCLIP		MACS = 2		FOROSPINCLIP		MACS = 2		FLAT TIP		MACS = 2		SHOULDER		MACS = 2	
SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH
1 .146	.246	1 .144	.340	1 .051	.340	1 .309	.340	1 .150	.250	2 .243	.225	2 .243	.225	2 .243	.225	3 .336	.200	4 .429	.175
2 .286	.226	2 .236	.315	2 .143	.315	2 .401	.315	2 .243	.225	3 .493	.290	3 .493	.290	3 .336	.200	4 .429	.175	5 .522	.150
3 .426	.206	3 .328	.290	3 .235	.290	3 .493	.290	3 .336	.200	4 .585	.265	4 .585	.265	4 .429	.175	5 .522	.150	6 .677	.150
4 .566	.186	4 .420	.265	4 .327	.265	4 .585	.265	4 .429	.175	5 .677	.150	5 .677	.150	5 .522	.150	6 .677	.150	7 .769	.150
5 .706	.166	5 .512	.150	5 .419	.150	5 .677	.150	5 .522	.150	6 .769	.150	6 .769	.150	6 .677	.150	7 .769	.150	8 .840	.150
6 .146	.146	6 .604	.150	6 .511	.150	6 .769	.150	6 .677	.150	7 .769	.150	7 .769	.150	7 .769	.150	8 .840	.150	9 .931	.150
7 .146	.146	7 .696	.150	7 .603	.150	7 .861	.150	7 .769	.150	8 .953	.150	8 .953	.150	8 .840	.150	9 .931	.150	0	
8 .146	.146	8 .696	.150	8 .603	.150	8 .953	.150	8 .840	.150	9 .931	.150	9 .931	.150	9 .931	.150	0		0	
9 .146	.146	9 .696	.150	9 .603	.150	9 .931	.150	9 .840	.150	0		0		0		0		0	
0 .146	.146	0 .696	.150	0 .603	.150	0 .931	.150	0 .840	.150	0		0		0		0		0	
FORD 5 PIN H50/51																			
FA / FB 001-1863		H50/51		FORD 10 CUT H54/60/62/67		H75/87/297		FORD 6 CUT H75/87/297		H75/87/297		FORD FIESTA FC7		FORD ASPIRE H70					
SHOULDER		MACS = 4		FLAT TIP		MACS = 2		FLAT TIP		MACS = 2		SHOULDER		MACS = 2		FLAT TIP		MACS = 2	
SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH
1 .100	.340	1 .217	.352	1 .405	.354	1 .075	.323	1 .203	.323	1 .203	.323	1 .203	.323	1 .203	.323	2 .294	.297	2 .294	.297
2 .250	.320	2 .310	.326	2 .497	.329	2 .190	.301	2 .294	.297	3 .385	.272	3 .385	.272	3 .385	.272	4 .476	.246	4 .476	.246
3 .400	.300	3 .402	.300	3 .589	.304	3 .310	.278	3 .385	.272	4 .476	.246	4 .476	.246	4 .476	.246	5 .567	.246	5 .567	.246
4 .550	.280	4 .495	.274	4 .681	.279	4 .435	.254	4 .476	.246	5 .567	.246	5 .567	.246	5 .567	.246	6 .658	.246	6 .658	.246
5 .700	.260	5 .587	.248	5 .771	.254	5 .545	.246	5 .567	.246	6 .658	.246	6 .658	.246	6 .658	.246	7 .749	.246	7 .749	.246
6 .100	.340	6 .680	.248	6 .866	.248	6 .645	.246	6 .658	.246	7 .749	.246	7 .749	.246	7 .749	.246	8 .840	.246	8 .840	.246
7 .250	.320	7 .772	.248	7 .958	.248	7 .770	.246	7 .749	.246	8 .840	.246	8 .840	.246	8 .840	.246	9 .931	.246	9 .931	.246
8 .400	.300	8 .865	.248	8 1.060	.248	8 .840	.246	8 .840	.246	9 .931	.246	9 .931	.246	9 .931	.246	0		0	
9 .550	.280	9 .957	.248	9 .957	.248	9 .931	.246	9 .931	.246	0		0		0		0		0	
0 .700	.260	0 1.050	.248	0 1.050	.248	0		0		0		0		0		0		0	
GM STANDARD																			
SHOULDER		MACS = 2		GM ALPHATEC B68/B54		B68/B54		GM SATURN B76/B8		B76/B8		GM 10 CUT B86		B86		SPECTRUM B53		B53	
SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH	SPACE	DEPTH
1 .109	.248	1 .413	.347	1 .144	.340	1 .216	.315	1 .118	.325	2 .308	.290	2 .308	.290	2 .308	.290	2 .308	.290	2 .308	.290
2 .201	.223	2 .512	.324	2 .236	.315	2 .308	.290	2 .308	.290	3 .400	.265	3 .400	.265	3 .400	.265	3 .400	.265	3 .400	.265
3 .293	.198	3 .610	.300	3 .328	.290	3 .400	.265	3 .400	.265	4 .492	.240	4 .492	.240	4 .492	.240	4 .492	.240	4 .492	.240
4 .385	.173	4 .709	.277	4 .420	.265	4 .492	.240	4 .492	.240	5 .584	.215	5 .584	.215	5 .584	.215	5 .584	.215	5 .584	.215
5 .477	.148	5 .807	.253	5 .512	.253	5 .584	.215	5 .584	.215	6 .676	.180	6 .676	.180	6 .676	.180	6 .676	.180	6 .676	.180
6 .569	.128	6 .906	.228	6 .604	.228	6 .676	.180	6 .676	.180	7 .768	.155	7 .768	.155	7 .768	.155	7 .768	.155	7 .768	.155
7 .661	.108	7 .768	.155	7 .696	.155	7 .768	.155	7 .768	.155	8 .860	.130	8 .860	.130	8 .860	.130	8 .860	.130	8 .860	.130
8 .753	.088	8 .860	.130	8 .860	.130	8 .860	.130	8 .860	.130	9 .952	.105	9 .952	.105	9 .952	.105	9 .952	.105	9 .952	.105
9 .845	.068	9 .952	.105	9 .952	.105	9 .952	.105	9 .952	.105	0		0		0		0		0	
0 .937	.048	0 1.044	.075	0 1.044	.075	0		0		0		0		0		0		0	

FOREIGN AUTOMOTIVE

GEOMIT/SUZ MIT3/86/874			HONDA HD90/92/78U/X130			HONDA HD91/HD103			HYUNDAI HY4/HY5			HYUNDAI HY6/12/13/14		
30010-32009 18100-19299			3K-4481 1K-1700 3K-2700			5001-8442			X/Y 1001-2000			R/S/T 001-1000		
SHOULDER MACS = 3			SHOULDER MACS = 2			SHOULDER MACS = 4			SHOULDER MACS = 3			SHOULDER MACS = 2		
SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH	
1	.098	.315	1	.098	.276	1	.108	.307	1	.098	.283	1	.098	.319
2	.181	.299	2	.197	.244	2	.193	.294	2	.197	.264	2	.181	.295
3	.264	.283	3	.295	.213	3	.278	.282	3	.295	.244	3	.264	.272
4	.346	.268	4	.394		4	.362	.269	4	.394	.224	4	.347	.248
5	.429	.252	5	.492	HD78U/X130	5	.447	.257	5	.492	DEPTHS	5	.430	
6	.512		6	.591	USE ONLY	6	.531	.244	6	.591	ARE .068	6	.513	
7	.594		7	.689	SPACES	7	.616		7	.689	LESS FOR	7	.596	
8	.677		8	.787	1-6	8	.701		8	HY2		8	.679	
9	HAND FILE DEEP CUT		9	HAND FILE DEEP CUT		9			9	HAND FILE DEEP CUT		9	HAND FILE DEEP CUT	
0	IN SPACE #1		0	IN SPACE #1		0			0	IN SPACE #1		0	IN SPACE #1	
KIA KK1/KK2			MAZDA M23/M210			MAZDA M213/M216			MAZDA M219/M227			NISSAN 62DT/62DU		
Y7000-9200			2500-2999 3K-4800 5K-6100			6500-7733			10100-12283			MAX-8K N1-2K DA33/OA34		
SHOULDER MACS = 3			SHOULDER MACS = 2			FORDSPINCLIP MACS = 2			SHOULDER MACS = 3			SHOULDER MACS = 3		
SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH	
1	.098	.282	1	.310	.315	1	.088	.315	1	.098	.315	1	.155	.276
2	.197	.262	2	.409	.283	2	.187	.295	2	.181	.299	2	.254	.256
3	.295	.242	3	.507	.252	3	.285	.275	3	.264	.284	3	.352	.236
4	.394	.222	4	.606		4	.384	.256	4	.346	.268	4	.451	.217
5	.492		5	.704		5	.482		5	.429	.252	5	.549	
6	.591		6	.803		6	.581		6	.512		6	.648	
7	.709		7	.901		7	.679		7	.594	HAND FILE	7		
8			8			8			8	.677	DEEP CUT	8		
9	HAND FILE DEEP CUT		9			9			9	.760	IN SPACE	9		
0	IN SPACE #1		0			0			0	.843	#1	0		
NISSAN DA25			NISSAN DA34			TOYOTA TR25			TOYOTA TR33/37/855/56			TOYOTA TR38/TR46		
X/Y 001-8000			00001-22185			1001-2500 3001-4500			D.F.H.K.P.R.S DC1/3			80001-2878		
SHOULDER MACS = 2			FLAT TIP MACS = 2			SHOULDER MACS = 3			SHOULDER MACS = 3			SHOULDER MACS = 3		
SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH	
1	.118	.276	1	.337	.333	1	.178	.268	1	.098	.276	1	.128	.319
2	.201	.256	2	.420	.307	2	.284	.248	2	.197	.256	2	.211	.305
3	.283	.236	3	.502	.281	3	.390	.228	3	.296	.236	3	.293	.291
4	.366	.217	4	.585	.256	4	.496	.208	4	.394	.217	4	.376	.278
5	.449		5	.667		5	.602		5	.492		5	.459	.264
6	.532		6	.750		6	.708		6	.591		6	.541	.250
7	.614		7	.833		7			7	SUBTRACT .816 FROM		7	.624	.236
8	.697		8	.915		8			8	SPACES FOR LUV1		8	.707	
9			9	.998		9			9	HAND FILE DEEP CUT		9		
0			0	1.080		0			0	IN SPACE #1		0		
TOY / MIT / GEO TR40/44			TOYOTA TR47/880			TOYOTA TR53			V.W. PAB/73VB			VOLVO VL6/R		
X / Y 001-8000			00001-15000			10001-2000			AH / AN / HV / NV / VB			1A000-5A745		
SHOULDER MACS = 2			FLAT TIP MACS = 2			SHOULDER MACS = 2			SHOULDER MACS = 3			SHOULDER MACS = 2		
SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH		SPACE	DEPTH	
1	.098	.325	1	.368	.323	1	.098	.327	1	.106	.300	1	.100	.320
2	.181	.297	2	.459	.299	2	.192	.303	2	.194	.276	2	.199	.294
3	.264	.270	3	.549	.276	3	.286	.280	3	.335	.252	3	.298	.268
4	.346	.242	4	.640	.252	4	.380	.256	4	.454	.228	4	.397	.242
5	.429		5	.730		5	.474		5	.571		5	.496	SPACE 9+10
6	.512		6	.821		6	.568		6	.728		6	.595	CUT AS ONE
7	.594		7	.911		7	.662		7	.863		7	.694	
8	.677		8	1.002		8	.756		8	WIDEN SPACES		8	.793	HAND FILE
9	HAND FILE DEEP CUT		9			9	HAND FILE DEEP CUT		9	2.4, 5.8 BY .523		9	.892	DEEP CUT IN
0	IN SPACE #1		0			0	IN SPACE #1		0	TO BOTH SIDES		0	.991	SPACE #1

A. Handy reference chart.

well and can be done on the job in about fifteen minutes.

When using a 1-1/4" cylinder, place the hole between the number five and number six pin hole. Cut the restricted key on a five-pin blank and the unrestricted key on a six-pin blank. The longer key will fill the keyway - prevent the shear pin from falling into place - and allow the cylinder to operate in either direction. The shorter key will leave the keyway open, allowing the pin to limit the plugs rotation. File a "false" cut in the sixth space of the key.

When using a 1" cylinder, place the shear pin hole between the number four and number five pins (13/16" from the face of the cylinder). File away the back of the key as shown in the illustration, which limits the function of the key. A non-modified key will operate the lock in either direction.

*Bob Coleman
Illinois*



WEDGEKO KEY EXTRACTOR WINNER: Panic Device Repair

I was asked to check out a problem my customer was having with the panic device on the front door of their store.

It turned out that one end of the crossbar on the Jackson exit device was not secured to one of the arms because the screw had stripped out.

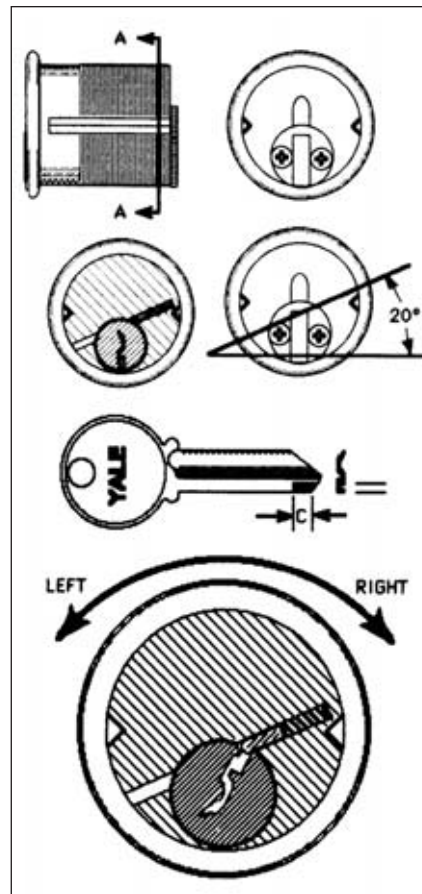
To solve the problem I used blind nuts (the same ones used for installation of magnetic locks). I installed the blind nuts in the crossbar and fastened it to the arm with the proper sized bolt and the panic bar was just like new again.

*Bill Wessel
E-mail*



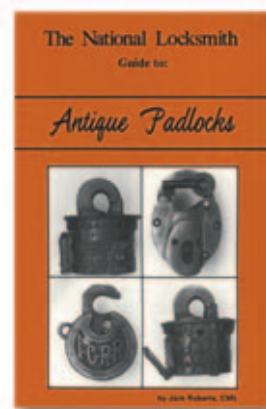
STRATTEC WINNER: Precut Keys

This may sound like a very obvious on-the-job time saver, but



B. A 7/64" hole is then drilled at approximately a 20° angle.

Antique Padlocks



CLICK HERE TO LEARN MORE



#PAD - 1

about a year ago, I began cutting keys in advance rather than cut keys on-site for each job.

Using the keyways I use regularly (SC1, SC4, KW1, S22), I make three or four sets for each keyway in quantities of 2, 3, 4, 5, 6, 7, 8, 9 and 10.

Each set of keys is attached to a give away key ring with a small yellow slip of paper with the bitting written on it. The sets are in a polybag and heat-sealed. Each keyway is put into an individual cardboard box (like the ones knobsets come in) and labeled.

I determine how many keys the customer may want, grab the appropriate pre-cut keys and my rekeying tool tote and grab the pin kit.

On average, my in-and-out time is cut by ten or fifteen minutes. The customer is pleased with the efficiency of my service and I save time.

*Jeff Rosen
Colorado*



HPC WINNER:
Protecting Code Cards

I found that by laminating my HPC 1200CMB code cards between two sheets of laminate,

they stay clean, don't scuff and remain new and fresh looking. If they do get soiled, a damp rag restores them to perfect condition.

I picked up a laminating machine at Sam's Club. It works great.

I found that before I laminated the cards, it helped to clean off the card with a soft rubber eraser (we used to call them "soap" erasers) by gently rubbing the eraser over the surface of the card.

Also, I use the laminating machine to laminate sheets of information. It makes them almost indestructible.

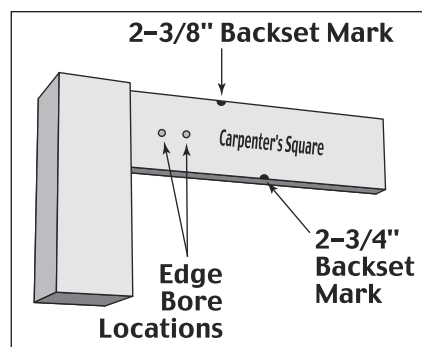
*Harold Wager
Florida*



SARGENT & GREENLEAF WINNER:
Squared Away Installation Tool

You can make a great installation tool from a simple carpenter's square. (See illustration C.)

Simply count over to 2-3/8" and file a "V" notch on top of the square at that location. Then go over to 2-3/4" and file a "V" notch on the bottom of the square's blade. Now you have the two most common backsets for cross-bores located on the square.



C. A great installation tool from a simple carpenter's square.

Next measure over from the "stop" edge of the square 11/16" and drill a 1/8" hole through the blade. This gives you the location of the edge bore for a 1-3/8" door.

Next measure over from the "stop" of the square 7/8" and drill another 1/8" hole. This gives you the location of the edge bore for a 1-3/4" door.

To use the locator tool, simply place the square against the edge of the door at the height you want to mount the lock and mark the proper backset at the very edge of the door. Then place the square against the side of the door, align it with the tick mark



How To Re-Key Cylinders

This software simplifies the process of re-keying various types of cylinders.

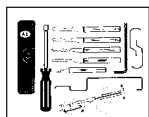
CLICK HERE TO LEARN MORE



#HT - RKC1

you made and use your pencil to mark the edge bore location.
Simple, fast and easy.

*Johnny Jackson
Florida*



**A-1 SECURITY PRODUCTS WINNER:
Drive-in Bolt Prep**

In the area of Florida where I live, most of the deadbolts I install are in metal doors. Since I use drive-in bolts, which call for a 1" hole in the edge of the door, I frequently have problems with call-backs for bolts that are "loose".

The problem stems from the fact that when you cut a 1" hole with a 1" hole saw (and depending on the condition of the saw), there is a certain amount of wobble which can make the hole slightly larger than needed.

My solution is to use a 15/16" hole saw first. Then, if necessary, make a second pass with the 1" hole saw. The 1" saw passes easily through the hole made by the 15/16" hole saw, cleaning up the hole and bringing it up to a true 1" diameter.

Now I'm certain my bolts fit tightly and feel confident that a loose bolt won't be the reason for a future call-back.

*Mike Moriarty
Florida*

Editor's Note: Mike, This is a good idea to ensure a 1" hole. However, I would recommend more support for the drive-in style bolts than just the door's metal. In many hardware packs like the newer Schlage and Kwikset, there are several "slip-on" faceplates for various installations. Perhaps putting one of them on the inside of the hollow metal door and then sliding the bolt through would give the installation more security. You could retain the plate with either Pop-RIVETS, or epoxy. You might also want to look at Pat McConnell's tip in this month's column.



**KEEDEKX WINNER:
EXACTO® Knife Pick Handle**

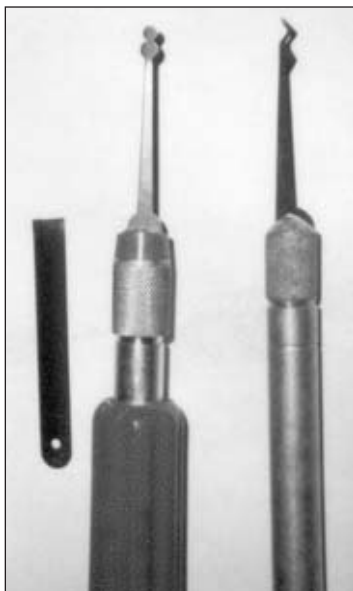
An EXACTO® knife handle can come in handy as a replacement handle for those picks that we have with no handles or broken handles.

Simply cut the pick blade off about 3/4" above where it begins to flare out and insert it in the EXACTO® handle. Now you have a nice, comfortable handle to grip while trying to pick a stubborn lock or cylinder. You can use either the EXACTO® pencil style or the larger red handle. (See photograph 1.)

I find the easiest way to cut the pick blades is to hold them in a pair of side-cutter pliers and simply bend the pick back and forth. Usually it breaks cleanly on the first bend.

The remaining ends and pieces of the picks can be cut, ground or shaped for use as knob retainer depressors, bolt retractors for padlocks and file cabinets, specialty picks, clip removers and more. Just use your imagination.

*C. W. Bovendoer
North Carolina*



1. EXACTO® pencil style handle.

Locksmith Dispatcher 2000



Controlled Service dispatching software
specifically for the locksmith!

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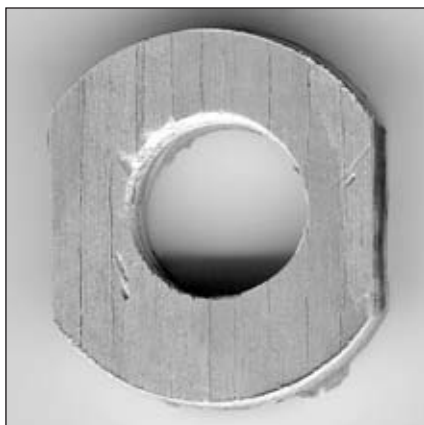




**TECH-TRAIN TRAINING
VIDEO WINNER:
Plywood Latch
Support**

I needed a drive-in bolt support for a hollow metal door and my supplier told me it would be at least a week before they could ship one. Since I couldn't wait that long, I found a piece of scrap plywood about 5" long and 1/2" thick and nailed it to two 2 by 4's.

Using a 7/8" hole saw, I cut several holes, evenly spaced along the length of the plywood. Next I used a 2-1/8" hole saw to cut the outer diameter on my latch support. I



2. Plywood latch support.

dressed the edges on a grinder so the support would fit inside the hollow metal door. (See photograph 2.)

*Pat McConnell
California*

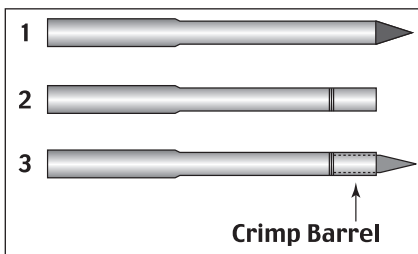


**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Ballpoint Pen Scribe**

Here's how to make a nifty retractable, combination scribe/poke tool from an old ballpoint pen.

First I chose a piece of music wire (you can also used oil-tempered wire) and cut it to a length of 1-1/8" and grind a point on one end.

Next, I took the brass refill out of the pen and cut the tip off at the end of the ferule. (See illustration D.) Using the appropriate sized bit, I drilled into



D. Ballpoint pen scribe.

the end of the ferule until the wire butted against the crimp in the barrel of the refill. This left about 3/8" protruding from the ferule.

To secure the wire in place, I crimped the barrel over the wire.

After re-assembling the pen, I had a neat, safe, retractable scribe/poke tool that I could carry in my shirt pocket.

*Jay Christie
North Carolina*



**MAJOR
MANUFACTURING
PRODUCTS
WINNER:**

**Super Gripper for Strap-style
Opening Tools**

The only problem with using trusty old packing tape to open the locking buttons on cars, is trying to prevent it from slipping off when you try pulling up the button. After trying sandpaper (which can cause scratches on the plastic buttons) and other methods, I finally found a much more reliable way of getting these straps to bind.

Go to a hardware store and buy a tin of the rubberized type paint, used for coating the handles of tools to provide a better grip. Paint a few coats of this on the part of the packing tape that



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#TIPS - 2

grabs the button and watch your tape grip without damaging the buttons.

*Guy Parker
Australia*



**SLIDELOCK "Z" TOOL
OPENING SET WINNER:
Ball Bearing Retaining
Trick**

When rekeying or installing Schlage B660 deadbolts (the ones with the ball bearings that nearly always fall into the door cavity?), you can stabilize the ball bearings and make each of the above tasks much easier.

Carry a small tube of silicone sealer with a screw on cap. Put a small amount - just a drop - on each ball bearing and drop the ball bearing into the screw mounting holes. Just be sure to use very little silicone, as you don't want to fill the holes with the stuff.

Then, simply mount the lock as you normally would. Any residual sealer that may get on the threads of the mounting screw will serve as a mild thread lock.

If you are recalled to service the lock at a later date, the silicone will allow the screws to back out, but will hold the ball bearings in place.

This neat little trick idiot proofs the security feature of these deadbolts for the customer.

*Leonard Downing, CPL
Oregon*



**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Eagle Premier
Impressioning Trick**

If you have had trouble trying to impression a key for an Eagle Premier, I find that it helps if you take the bind off of the locked steering wheel while trying to obtain impressioning marks.

Also, there is a spring inside the lock that you must push inward with the key to get the cylinder to turn. I find the key marks better if you do not push in on the key while trying to get a mark.

*David Craig
Illinois*



**JET KEY BLANKS
WINNER:
Card Stock and
Contact Paper**

Commercially available locksmith software such as InstaCode and others, does an excellent job of creating code cards for 1200CMB and

1200PCH code milling and punch machines on your computer. While the cards are similar, it should be noted that they are not interchangeable.

When printing the cards, print them on the heaviest card stock which your printer will accommodate and then apply clear, self-adhesive vinyl (such as contact paper). This film usually comes in 18" x 4 yard rolls. Place the vinyl on the cards before trimming the cards to size.

I found that my HP LaserJet would handle what is termed 140# index. Card stock is also available in 90# and 110# weights. It also comes in assorted colors, which enables you to color-code your cards if you wish.

The heavy card stock combined with the vinyl overlay will yield a durable code card for only a few pennies worth of material per card.

*Peter P. Schifferli
New York*

**HIGH TECH TOOLS WINNER:
Cam Lock
Template**



A recent job called for eighty cabinets to be fitted with cam locks and elbow catches, so I decided to make an installation template.



Ultimate Safe Opening Collection

Never in history has such a complete collection of safe opening information been available in one place!

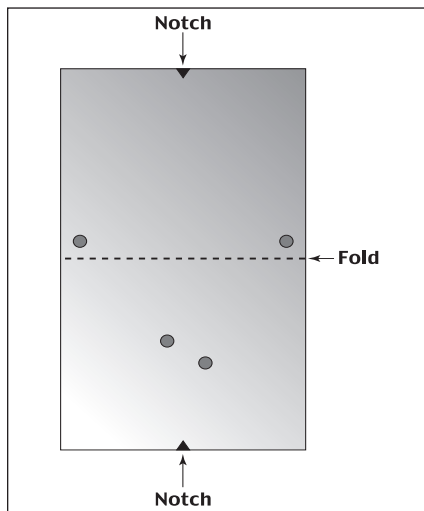
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#USOC - 1

I folded a stiff card to a ninety-degree angle, laid out the elbow catch spacing and marked the holes with a pencil.

Then I inverted the fold and transferred the marks to the outside of a piece of 2" by 1/8" angle iron; center punched the marks and drilled 1/8" holes. The angle iron was cut to a length that equaled twice the backset of the cam lock and I cut a small v-notch at the center point of both ends. Unfolded the paper template looked like the drawing. (See illustration E.)

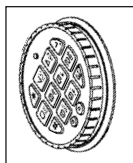


E. Cam lock paper template.

In use, the angle iron template is simply held where the elbow catch goes. The holes are marked with a pencil and then started with an awl. Fidgeting with the spacing is a thing of the past. Held to the outside of the active door, the V shaped-notch in the template marks the backset of the cam lock at any point along the edge of the door.

As far as the vertical location of the hole, I've found that 2" from the top of under counter cabinets and 2" from the bottom of above counter cabinets makes a visually pleasing arrangement that rarely interferes with handles. A coat of white paint makes it easy to see in dark cabinets. This little jig cost nothing and really helps make fast work of a fairly common job.

Elgie Lejeune
California



**LAGARD WINNER:
Let There Be Light**

There is a neat new tool on the market that I don't believe is available from our normal locksmith suppliers. This little tool is about the size of a quarter and only cost \$10.00.



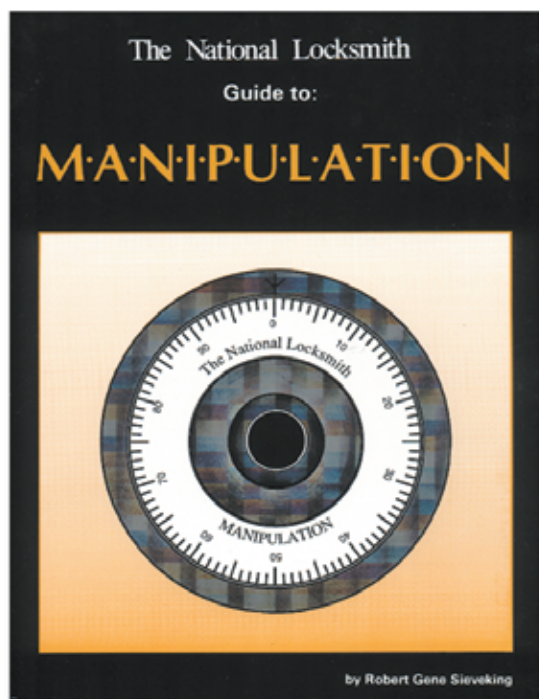
3. The Microlite.

It is a wonderful aid when using the Dremel. It makes the job faster and more accurate. It can be used to assist when reading wafers or doing broken key work or when duplicating. You can carry it on your key chain so it is always available. It's waterproof and requires no maintenance.

It's called the Microlite and can be obtained at your local gun dealer or gun show. (See photograph 3.) It comes with a squeeze switch but you can get it with an on/off switch as well. There are different color beams available; which with a little experimenting will probably help in impressing. The power of this little light is incredible and runs off two watch batteries. The high tech bulb is supposed to last 100,000 hours. You can see the beam from a mile away.

Bill Chrisman
Virginia

TNL



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#MAN - 1

The 2001 HONDA Civic

— by Tony Vigil —



1. The all-new 2001 Honda Civic.



2. The tool's tip is aligned flush to the front of the door.

The Honda Civic has been a big seller in the US since the time of their introduction in the early 1980's. The Civic is small, durable, and perennial mentions in the list of most gas efficient car on the road. To boot, the Civic gets more attractive with each new release. Maintaining the trend, the all-new 2001 Honda Civic is reliable, economical and a good looking car that should sell very well in the US and elsewhere. (See photograph 1.) The flip side of such popularity, of course, is that the Civic (and the Accord relative) are perennial members of the most stolen cars on Americas lists. Their presence on the automotive hit list is due not only to their popularity, but also due to a relatively simple vertical linkage fitted on each 4-door Civic. Beginning in 1996, the entire Honda line began a security system upgrade, which included shielded horizontal linkages and other safety measures. That upgrade continues in 2001.

Even while keeping its vertical lock buttons, Honda has created a new and well protected lock system. The lock button is at the top of the door, but it is shielded with metal all around it. There is no getting a tool through there. A small hole does appear directly under the bell crank, however it is so small, that finding it without a guide and from the other side of a locked door is challenging, at best.

In spite of the challenges presented by the good people at Honda, there is not one, but two opening methods to the car. Each opening method requires the right tool and the right technique. Let's get started.

• Opening Method 1 •

The first opening method targets

Continued on page 122

Continued from page 120

the rear passenger door, and therefore, only works on the 4-door Civics and not the 2-doors. We will be using the High Tech Tools number 71 tool, because the cuts are perfect for the dimensions of the door.

As with every opening, we begin with the insertion of a strip saver and wedge into the door to create an opening for the tool. Next, take the number 71 tool and point it's tip towards the front of the car. Look closely at the insertion position in *photograph 2*. The tool's tip is aligned flush to the front of the door. Exact measurements are crucial here.

Next, lower the tool into the door, and place another High Tech wedge with the thick end against the weather stripping. Lay the tool flat on the wedge as shown in *photograph 3*. This wedge and tool will provide you with the exact spacing required for the tool's tip to enter that tiny cavity in the door frame. (See *photograph 4*.) Simply lift the tool straight up to contact the Bell Crank. (See *photograph 5*.) When contact is felt, continue pulling up to lift the Bell Crank, moving the lock linkage and unlocking the door. (See *photograph 6*.) The tools used are designed for a perfect fit for this door, so using another tool with slightly different

dimensions will have drastically different results.

An illustrated opening procedure can be seen in *illustration A*.

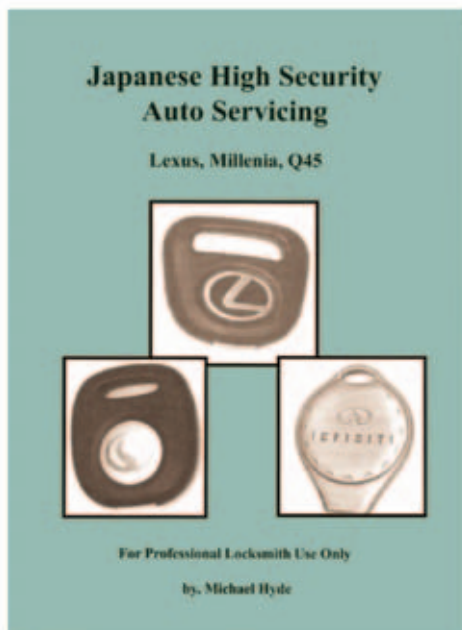
• Opening Method 2 •

The second opening method works for both the Civic 2-door and 4-door cars. This method also employs the use

Continued on page 124



3. Lay the tool flat on the wedge.



Japanese High Security

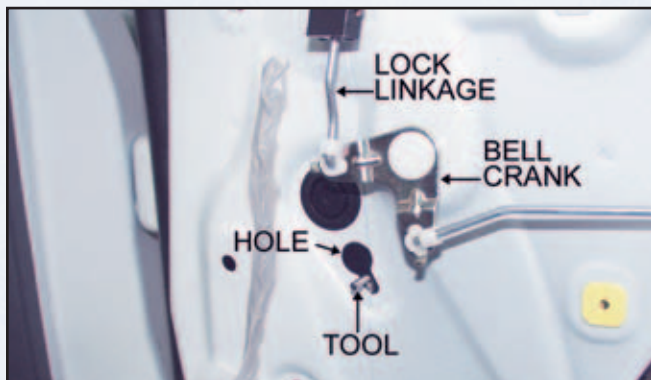
Some of the most profitable cars are also the trickiest to work on.

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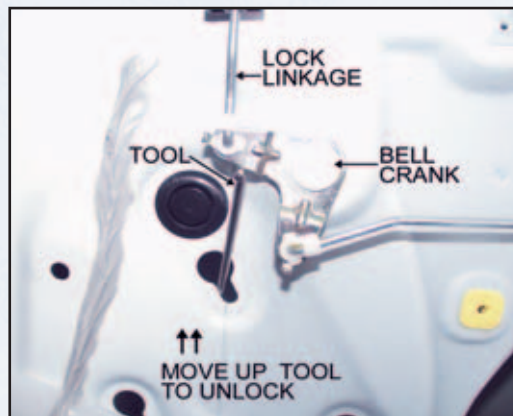


#JAP - 1

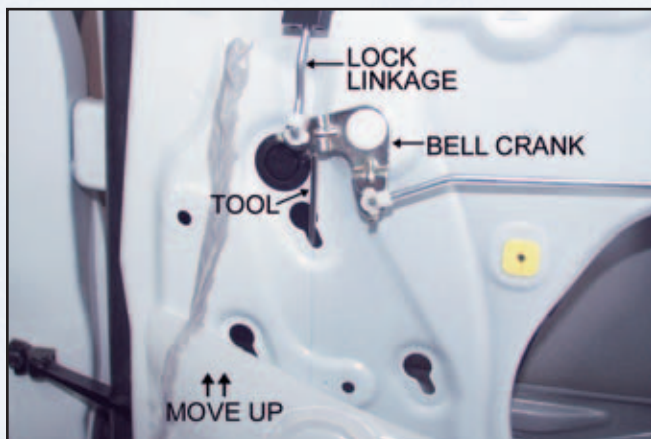
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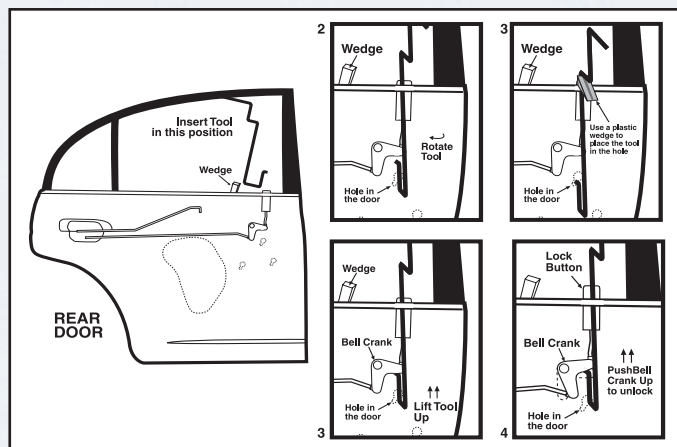
4. The tool's tip enters a tiny cavity in the door frame.



6. When contact is felt, continue pulling up to lift the Bell Crank.

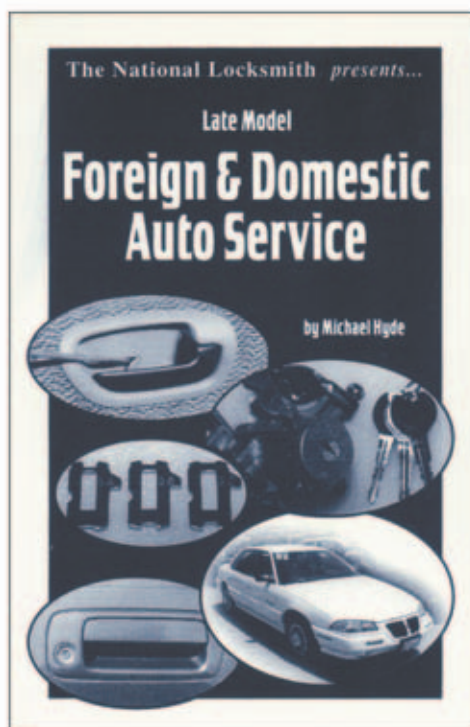


5. Simply lift the tool straight up to contact the Bell Crank.



A. An illustrated opening procedure using the number 71 tool.

Continued on page 126



Foreign & Domestic Auto Service

This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

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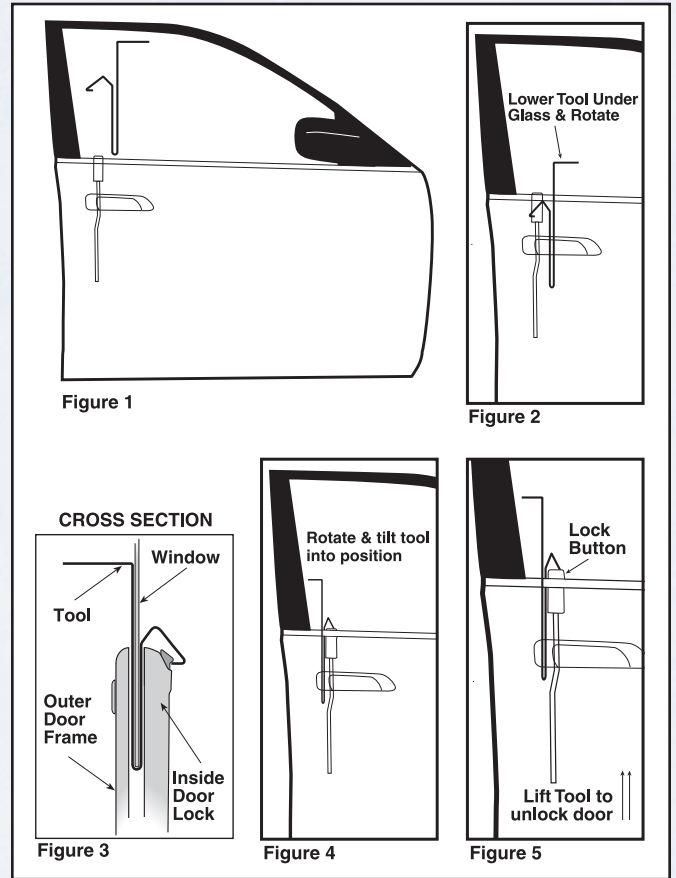


#FDAS - 1

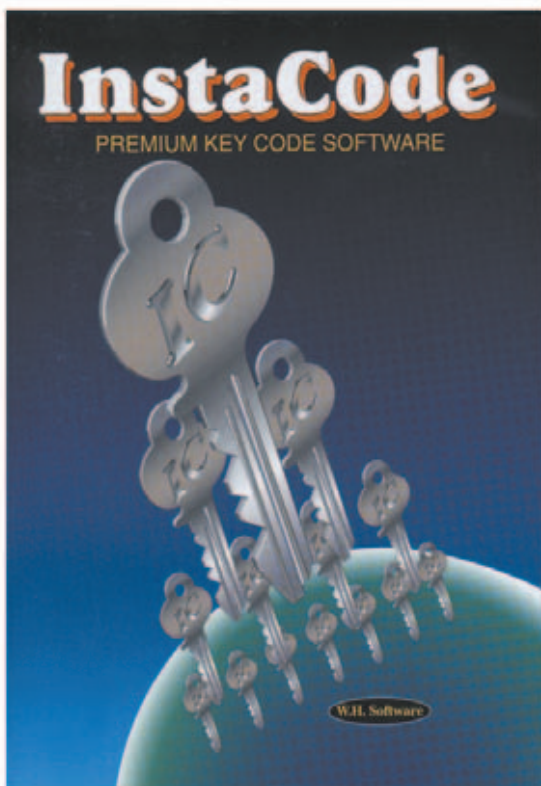
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7. Lower the number 74 tool directly above the door lock handle.



8. An illustrated opening procedure using the number 74 tool.



#IC - 2002

InstaCode 2002

InstaCode 2002, the latest release of InstaCode, includes over 5000 code series covering general/utility, padlock, vehicle and motorcycles.



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8. Rotate and lift the tool so that it emerges inside the car.

of a new tool specially designed by High Tech Tools for cars with well protected vertical lock buttons. It is used where "button lift" and "S" type tools that normally hook the lock rod do not work. The High Tech Tools number 74 tool is dubbed the "Mini-Inside Access Tool" and has proven itself effective with a range of Toyota vehicles, and most locksmiths will find it invaluable in the months and years to come.

The concept is simple: use the technique of the "Inside Access" or "Under the Window" tools, and apply them to vertical lock buttons instead of limiting them to horizontal lock buttons.

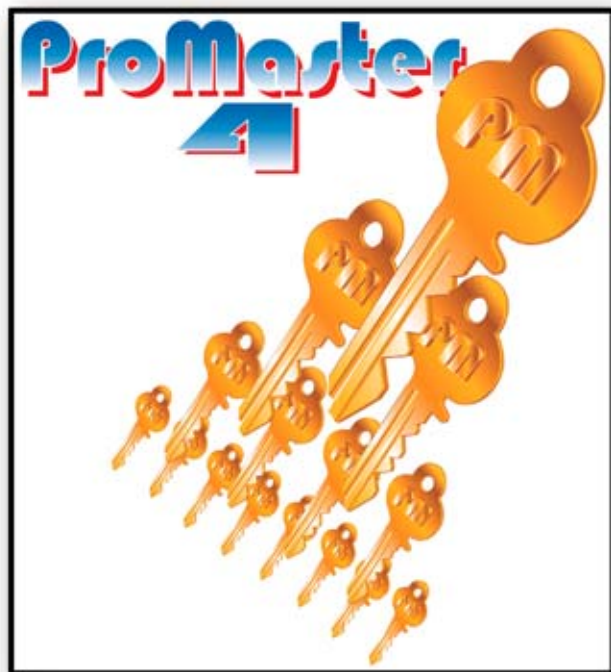
Begin by inserting a strip saver and wedge into the front passenger door. Next, lower the number 74 tool into the door directly above the door lock handle. (See photograph 7.) Remove the wedge, and then rotate and lift the tool so that it emerges inside the car just like the standard Inside Access tools. (See photograph 8.) The hooked end of the 74 tool is used to grab the door lock button. A simple lift of the tool handle unlocks the door, gets you paid and moves you on to the next job, all without the risk of damaging the door.

An illustrated procedure can be seen in *illustration B*.

2001 has seen a blizzard of changes to auto openings. Keeping abreast of the new lock systems and the techniques and tools to defeat those systems, will separate the amateurs from the professionals.

For more information contact: High Tech Tools, 1400 SW 1st Street, Miami, FL 33135. Phone: (800) 323-8324; Web: www.HighTechTools.com. Circle 317 on Rapid Reply. **TNL**

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#PM - 5

1992 GMC TopKick LOPRO Truck



by
John Blankenship

GMC TopKick and Kodiak trucks use Saginaw steering columns but they require a special tool to remove the ignition lock.



The first step is to remove the horn pad by pulling out on both sides below the GMC logo. The top of the pad will then pull out.



It was the last day of the Oakland Raiders summer camp in Napa, California and this GMC truck was standing by to move them out. There was a problem though; the driver could not find the key to the truck. I used a horizontal linkage tool to open the door and went to work.

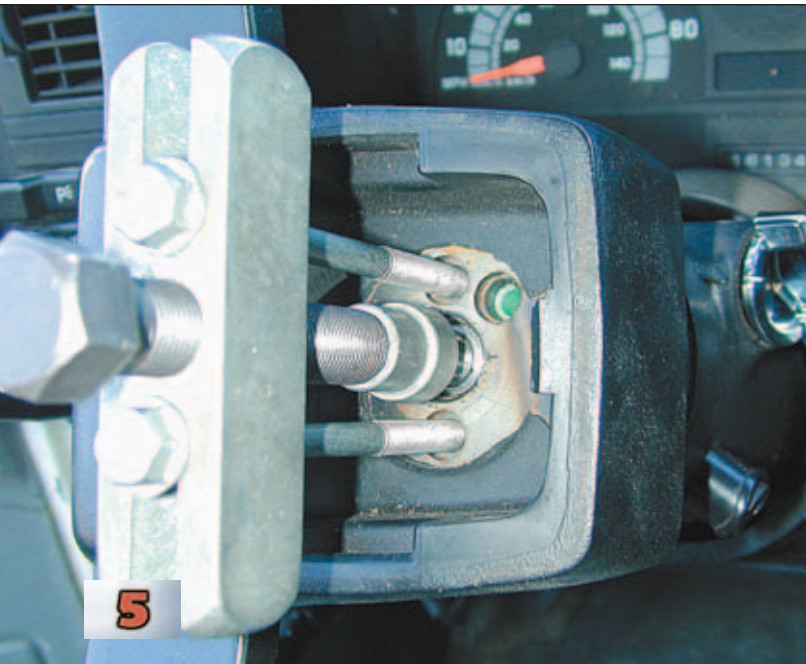


The chrome emblem on the side of the hood tells you that it is a TopKick.



Remove the horn pad connector by pushing it in and turning it counterclockwise. The ground clip is a pressure fit so just pull it out. Remove the safety clip with a Truarc ring spreader and then remove the steering shaft nut with a 13/16" socket. A sparkplug socket works well.

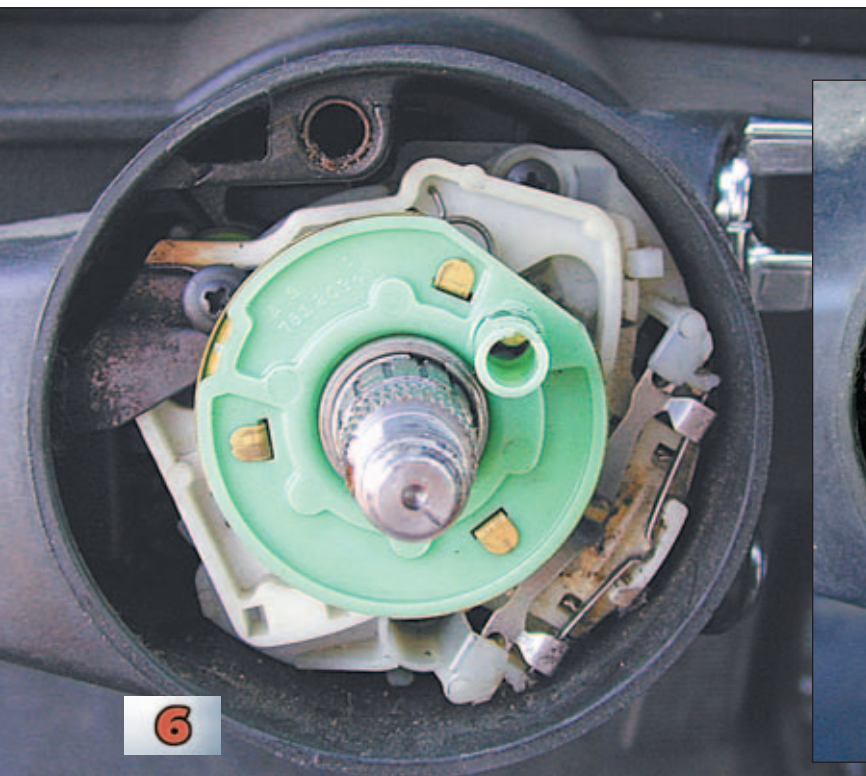
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Look at the original alignment marks and if they do not align, make your own marks so you can align the steering wheel with the shaft when you put it back on. Use a steering wheel puller to remove the wheel.



The Kent-Moore lock plate compressor adapter, tool number J-23653-91A, is made specifically for this job. This tool is needed to remove the horn plates on GMC TopKick and Kodiak trucks. This tool is also needed to remove the horn plates on GM Alpha Technologies steering columns. However, it is not necessary to remove the horn plate to remove Alpha Technologies locks so we will probably not need to use it on these automobiles. Kent-Moore can be reached at 1-800-345-2233.

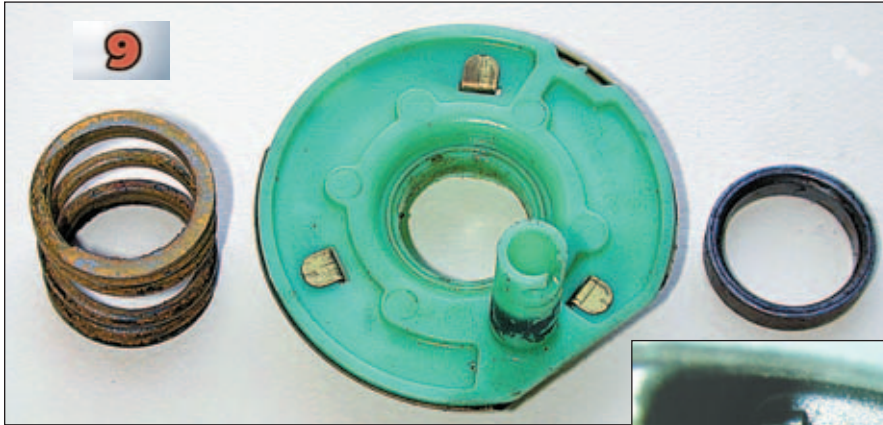


After removing the steering wheel the first thing you notice is that there is no lock plate covering the plastic horn plate. Instead, there is a metal ring in the center of the horn plate that the snap ring secures. A lock plate compressor will not work unless a special tool is used.



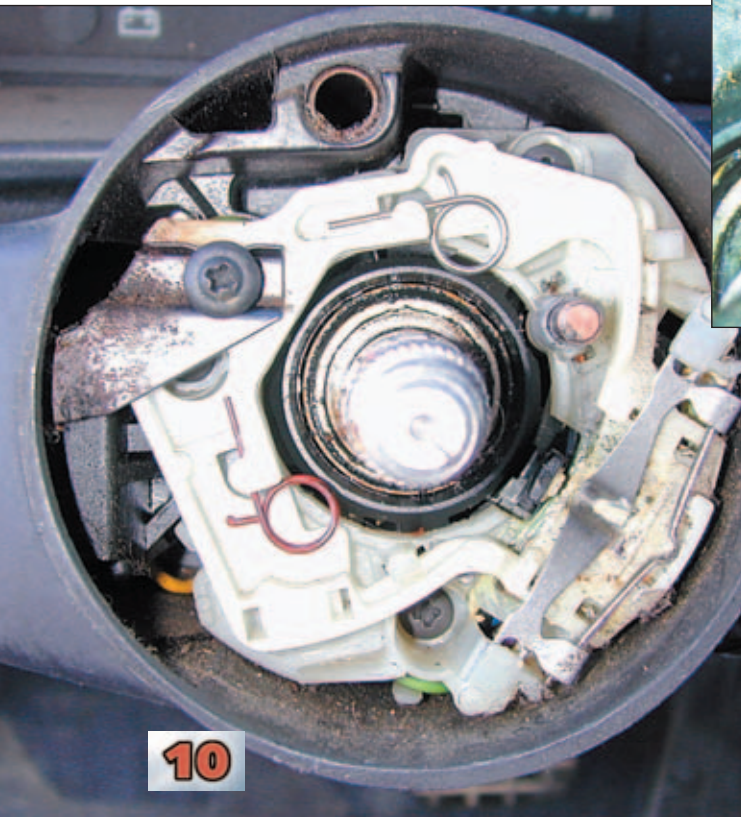
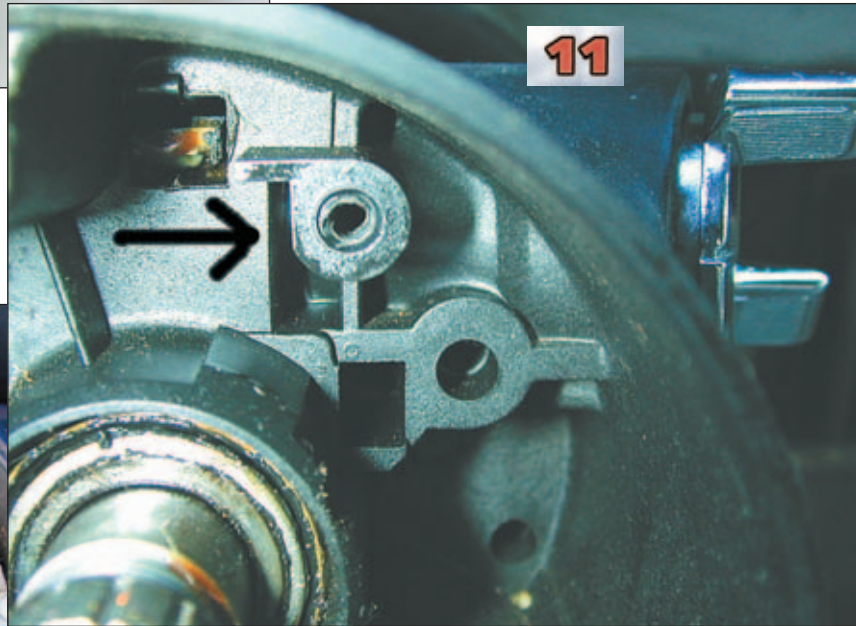
Place the tool over the horn plate and use a lock plate compressor to push the metal ring down the shaft so the snap ring can be removed. I use a screwdriver and awl to start it and then switch the awl for another screwdriver to finish removing the snap ring.

Continued from page 130

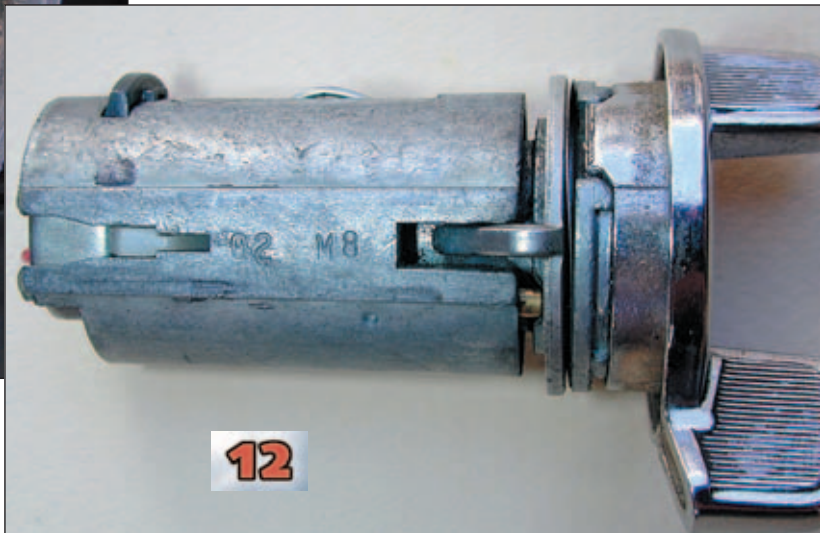


After the snap ring is removed, the metal ring, horn plate, and compression spring can be removed.

This truck uses a snap-in ignition lock like those used on 1969 to 1978 GM automobiles. Use a thin screwdriver or similar tool to push the retainer in and pull the lock out. An arrow is pointing to the rectangular poke hole.



Now we need to remove 5 Phillips screws. One is securing the hazard signal button on the right side of the column, another is securing the turn signal arm, and three are securing the turn signal switch assembly. Pull the switch assembly up and out of our way even though it is still connected by the wiring. I found the left turn signal return spring missing so I replaced it as a courtesy. The left and right GM part numbers are 1964784 & 1964785. The right ones are blue and the left ones are red. The price is \$4.30 for a 10-pack.



The ignition lock is removed and the retainer can be seen near the back of the lock. The code stamped on the lock requires a B45 'H' blank which, when code cut, also works the doors. This truck uses a Strattec 608529 fleet ignition lock with a secondary keyway. An alternate way to make the key to a fleet ignition lock is to remove and disassemble a door lock.

TNL

BASIC ELECTRONICS

part 2



by
William C. Deutsch

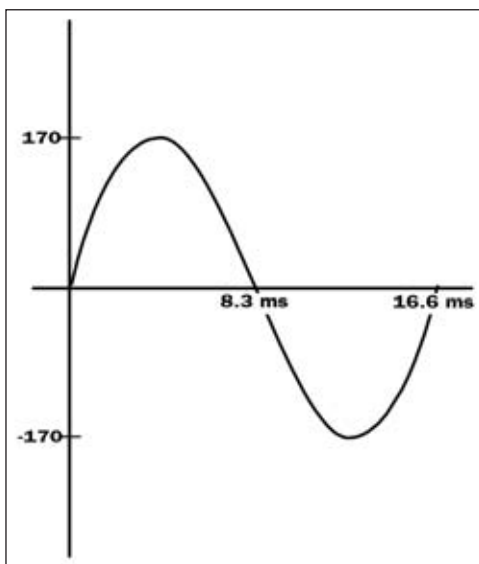
Electricity comes in two basic varieties - AC and DC. Knowing when and how to use each is vital if you want to work with electronics.

AC is the most common form of electricity because it is available straight from your wall socket. Alternating Current gets its name from the fact that the current and voltage (which we discussed in our last article) constantly change, or alternate.

Take a look at illustration A. The line, or axis, on the left is used to indicate voltage; the axis along the bottom indicates time. Notice that the voltage starts at zero. But over the course of 16.6 milliseconds (1/60th of a second) it will rise all the way to 170 volts, swing way down to -170 volts, and then return to zero.

Some Important Measurements

Illustration A, shows one AC Cycle. Notice that a cycle has a positive peak (in this case, 170 volts) and a negative peak (-170 volts). The cycle begins and ends at zero volts. The number of



A. The axis on the left is used to indicate voltage; the axis along the bottom indicates time.

complete cycles that occur in one second are measured in Hertz. Household AC is 60 Hertz, which means that the AC flowing from your wall socket goes through sixty complete cycles every second.

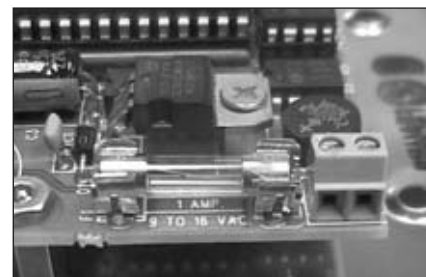
Because AC is constantly changing, the mathematics involved in calculating it is fairly complicated. To really understand alternating current you need at least a working knowledge of trigonometry.

Fortunately, a detailed knowledge of AC theory is not something you will need in your day to day work as an electronic access control (EAC) tech.

There are, however, three concepts that you should be familiar with. The first is AC Voltage, which is usually abbreviated as VAC. *Illustration A*, shows the waveform for common household AC. Based on that chart, the highest point that this voltage will reach is 170 volts. The voltage also dips as low as -170 volts. Why then, when you plug a voltmeter into a wall socket do you read a steady 120 volts? The answer is that your voltmeter is calculating the effective value of the voltage. AC Voltage can be measured in many ways, but the most common is the effective (or RMS) value. You can calculate the effective value of an AC voltage by multiplying the peak by .707. For now, don't worry too much about why. But when you see an AC voltage referred to - whether on a spec sheet, on a piece of equipment, or on your multimeter's display - assume that you are seeing the effective value of the voltage, unless you are told differently.

What you learned about the DC voltage in our last article also holds true about AC. When connecting an AC powered device to a power source, you should make sure that the voltages match. If an electric strike calls for 12 VAC, don't try to feed it 24 VAC. It will develop very bad indigestion and die. That being true, it is still not uncommon to see a range of AC voltages called for in a specification. *Photograph 1*, shows the AC input terminal from a Medeco SiteLine(r) Controller. Notice that the input is 9 to 16 VAC. This means that any voltage from 9 to 16 VAC is safe to use with this device.

Another measurement that you will commonly run across is VA, which is short for Volt-amperes. VA indicates the apparent power that an



1. An AC input terminal from a Medeco SiteLine® Controller.

Continued from page 134

AC source can supply. I will not even begin to weigh you down with the theory behind apparent power. In your day to day work, you should treat VA requirements in the same way that you treat current requirements: you may safely provide more apparent power than is required for an application, but you can never provide too little. So if you are installing a power supply that requires 20VA input, you may use a transformer that supplies 40VA, but you should not try to supply under 20VA. The example that follows should clear this up a bit.

Using AC Specs on the Job

Although DC powers most electronic devices, you will often run across several AC powered devices. These include DC power supplies (which requires an AC input that converts to DC); EAC controllers; some electric strikes and CCTV cameras.

All of these devices will usually be powered by the humble, plug-in transformer. This component is designed to plug into a wall socket and step the voltage down to a more useful level. Since installation is easy - you usually just plug it into a socket - the

only thing you need to learn is how to read the specs.

A common transformer will have something like this printed on its body:

PRI 120V 60HZ
SEC 14VAC 20VA

Here's the translation: PRI (sometimes referred to as INPUT) means primary. This is the voltage that you put into the transformer. 120 V 60 HZ means 120 volts, 60 hertz, or basic household current. You could plug a transformer with this label into most wall sockets in America.

SEC (sometimes referred to as OUTPUT) means secondary. This is the voltage and power that the transformer will supply. In this case, you will have 14 VAC and 20 VA at your disposal.

A Real-Life Example

Now let's put all of your newfound knowledge to work with a real-life example.

You are installing a Medeco Power Module. It has a 12 Volt DC power supply that comes supplied with a 14VAC 20 VA transformer. The transformer is used to supply the proper AC voltage to the power supply. As you are unpacking the power supply, the transformer slips from your hand, falls out of a second story window and smashes into a bazillion pieces on the parking lot below.

Thinking fast, you remember that you have two spare transformers in your truck.

The first transformer is marked:

PRI 120V 60HZ
SEC 16.5VAC 40 VA

The second transformer is marked:

PRI 120V 60HZ
SEC 14 VAC 40 VA

Will one of these transformers work, or do you have to slink back to the shop in shame for being such a klutz?

If you chose the second transformer, you are correct. The secondary voltage matches, which as you remember is critical. The apparent power is double what you need, but that is fine since the power supply will only take as much power as it will need. You return to your shop an EAC hero, and all because you read this article.

2002 AutoSmart™



Major changes, additions and revisions to the AutoSmart Book™ have been made, and the 2002 AutoSmart™ is now available!

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TNL

A MAJOR Undertaking



by Jake Jakubowski

Recently I received a call from a man who needed a locked floor safe opened. The caller was a little on the frantic side, which is very common in this kind of situation. After calming him down by assuring him that I could get the unit opened, I learned that I would be working with a Major B6 round, lift out door (floor safe) with a standard tubular body set into the floor. The unit had not been burglarized, it simply wouldn't open. I figured that it would just take a little bit of dialing diagnostics and then I would be able to open that jewel right up. Or so I thought!

The safe was located under a cabinet that held the register and shelves for ticket books etc., which left me very little room to work on the unit. There was even less light. Why is it that this type of safe always seems to be placed in inaccessible, greasy, vermin- friendly, smelly, wet and less than sanitary locations?

When I laid on my stomach with my head in the opening at the bottom of the cabinet and a small Mag flashlight between my teeth, I had just enough room to get one hand into the area so that I could try to dial the unit open. As it turned out, Lady Luck was on break, Mr. Murphy was holding court, and the things that I could see, in my peripheral vision, scurrying around my body, made me decide to select another method of attack as in drilling for the Dog Pin.

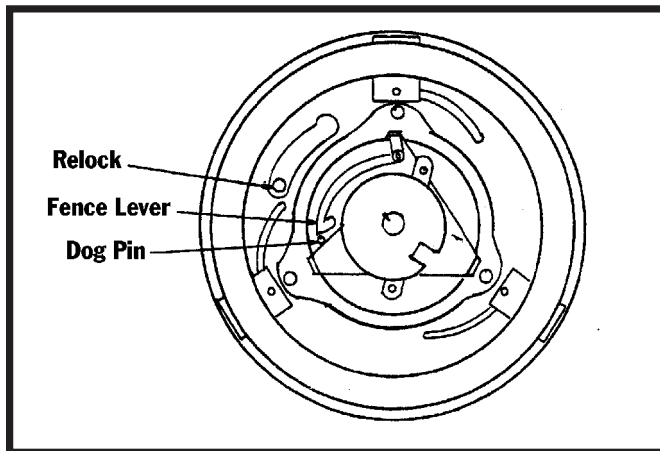
The Dog Pin is actually a fence stop that prevents the fence from rotating around to the open position until the combination is dialed in. Once the combination is dialed in the fence will drop into the wheel gates



1. The name tag on the Major safe head, which has the serial number is missing.

below the Dog Pin allowing it to rotate past to open. (See illustration A.) Once the Dog Pin is removed, the fence can be rotated around without dropping into the wheel pack below the Dog Pin, so the combination does not need to be known.

To achieve Dog Pin removal, its location must be known. Normally, when I'm faced with a situation where I want to drill for the Dog Pin on a Major round head, I call AMSEC and give them the serial number off the safe head. AMSEC will then give me a drill point location for the Dog Pin. It's then a simple matter of marking the drill point on the safe, drill and punch the Dog Pin, probe the bolts back and the unit is open.



A. Once the Dog Pin is removed, the fence can be rotated around without dropping into the wheel pack.

As you can see in photograph 1, the name tag, which has the serial number on it is missing from the safe head. This means that I can't call AMSEC and get a drill point. Like I said: Lady Luck was on break and Murphy was laughing.

Under the circumstances I did the next best thing: I went fishing for the bolt locations so I could locate the

Dog Pin. The question was, where are the bolt locations?

The bolt positions are necessary to know because the Dog Pin is always located in line with one of the three door bolts. However, this is easier said than done because AMSEC randomly locates these bolts on each safe head in relation to the opening index.

To overcome this obstacle and locate a locking bolt, I drill a small hole between the edge of the safe head and the tube. I drill until I cut through the lip of the tube the safe head is resting on.

Photograph 2, shows a pair of Craftsman RoboGrip Pliers clamped to the tube wall of the safe and a screwdriver against the RoboGrip angled through the handle of the safe head. I do this to stabilize the head so that when I drill the head will not spin around and around in the tube.

Illustration B, shows how the bolts of the safe head are positioned under the lip on the tube's wall. This lip prevents the head from being lifted out of the tube when the bolts are in the locked position. Knowing that the lip is there and that the safe head can be rotated in the tube, I will drill a one eighth inch hole as closely as I can between the head and the tube wall and down through the lip. (See *photograph 3*.)

I then inserted a piece of thin wire (in this case a partially straightened paper clip) into the hole and below the lip of the tube. (See *photograph 4*.) By rotating the head either left, or right, I can feel the bolt when it bumps against the wire. When I feel one side of the bolt hit the wire, I mark the contact point with a felt tipped pen. Then I lift the wire out, continue to rotate the head a couple of inches in the same direction and re-insert the wire. Next, I rotate the head the opposite direction until I feel the other side of the bolt strike the wire. I mark that side the same way.

Once I have the location of one bolt, it is a simple matter of drawing a straight line to the dial. (See *photograph 5*.) That represents the center of the bolt and triangulating the other bolt locations, 33 numbers apart. As you can see in *photograph 5*, I turned the dial so the "0" was at the opening index and the centerline of the bolt was on the "9".

Although the bolt pattern on a Major round head floor safe is

randomly set at the factory, the three bolts are always located in a 12, 4, 8 o'clock configuration. This means that once I located the first bolt on the dial, I simply added $33\frac{1}{3}$ to get the next bolt location ($9+33=42$) and add 33 to that number, which puts the third bolt at 76 ($42+33=76$). If you look closely, you'll see that's exactly where my bolt lines are on this head.

After establishing the bolt pattern and marking them on the head of the safe with a felt tipped pen, it is time to remove the dial from the head. To do this, I used a large, flat bladed screwdriver and split the dial from around the dial spindle. Note: I did not strike the dial directly in the center. I moved the screwdriver toward the top edge of the dial and broke the dial away from the spindle.

Following the removal of the dial, I had to establish the location of the Dog Pin. Since there are three possibilities, it means that I might wind up drilling three holes in the head before locating the Dog Pin. What I do know is that the Dog Pin sets $\frac{3}{8}$ " to the left of one of the bolts and $1\frac{1}{8}$ " out from the dial center. So, all I have to do is mark and drill each bolt in turn, until I find the Dog Pin. I was fortunate to hit it on the first try with this safe.

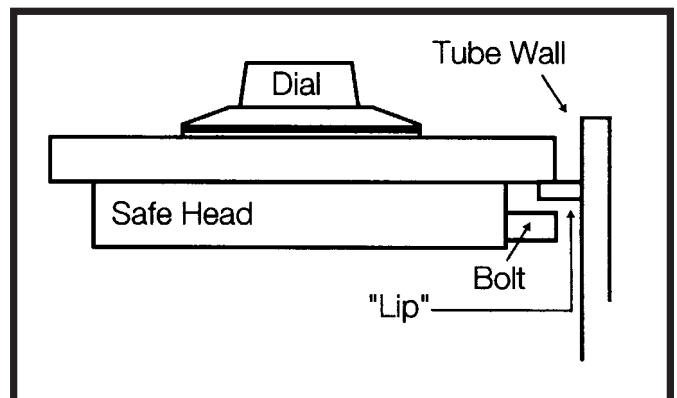
When drilling for the Dog Pin, there is a ball bearing positioned on top of the pin. You know you hit the pin when the rpm's of the drill increase

from the drill bit spinning on the ball bearing. (See *illustration C*.)

In *photograph 6*, you can see my punch in the hole and my RoboGrip pliers around the shaft. I hold the punch with RoboGrip's for two reasons. One, if I miss with the hammer, I don't bruise my tender flesh. Two, if the punch hangs up in the hole, I can use the pliers to "twist" it loose. A couple of good, solid whacks with my 22 Oz. framing hammer and the Dog Pin is pushed down into the back cover.



2. A pair of Craftsman RoboGrip Pliers clamped to the tube wall of the safe and a screwdriver.



B. How the bolts of the safe head are positioned under the lip on the tube's wall.



3. Drill a 1/8" hole as closely as I can between the head and the tube wall and down through the lip.



4. Insert a piece of thin wire into the hole and below the lip of the tube.



5. Once I have the location of one bolt, it is a simple matter of drawing a straight line to the dial.



6. You can see my punch in the hole and my RoboGrip pliers around the shaft.

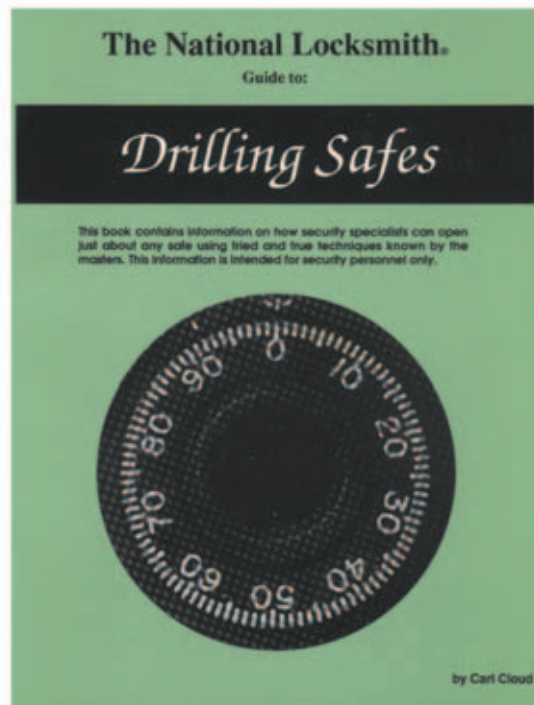
Photograph 7, shows the indentation in the back cover.

All that's left to do now is to insert a good stiff probe through the hole and fish the fence around until the bolts are retracted. If the fence will not probe and retract the bolts then the relocker may have fired. If that is the case you will have to drill for the relocker. If you look again at *photograph 7*, you will see a round pin projecting through the back cover plate, in a direct line with the dimple caused by driving the Dog Pin down. That's the relocker. The drill point for the relocker is 2" out from dial center and 1-3/4" from the center of the same bolt that I measured to find the Dog Pin. It is always located on the same side (left) of the same bolt as the Dog Pin. (See *illustration C*). If it's necessary to drill for the relocker, that drilling is done in the same manner as drilling for the Dog Pin. Drill at the location given and when you hit the ball bearing protecting the relocker, use a punch to drive the relocker out of the way and down through the back cover plate. When the relocker has been neutralized, then you can probe



7. A couple of good, solid whacks with my framing hammer and the Dog Pin is pushed into the back cover.

Drilling Safes



One of the most expert safemen in the country, Carl Cloud has written a very important book on safe opening.

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#DS - 1

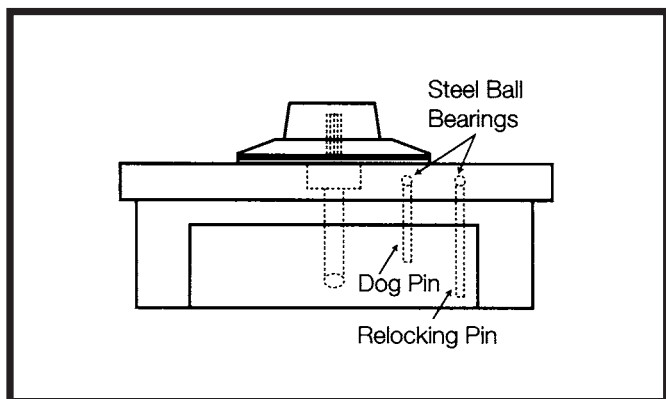
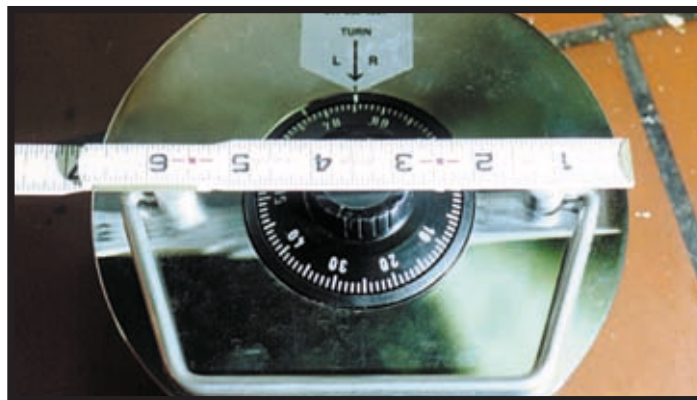


Illustration C.



8. The new Pryor, 7" replacement head that I sold the customer.

the fence around and open the safe.

Since the Major lift-out round door that I drilled, was old and had previously given the customer some problems, the customer elected to buy a new safe head rather than have me repair the one I opened.

Photograph 8, shows the new Pryor, 7" replacement head that I sold the customer. It just so happened that I had that one in my truck. I had begun buying replacement heads from Pryor (317) 352-1281, in Indianapolis when I was trying to find a replacement head for an old U.S. Safe head. The Pryor replacement head is

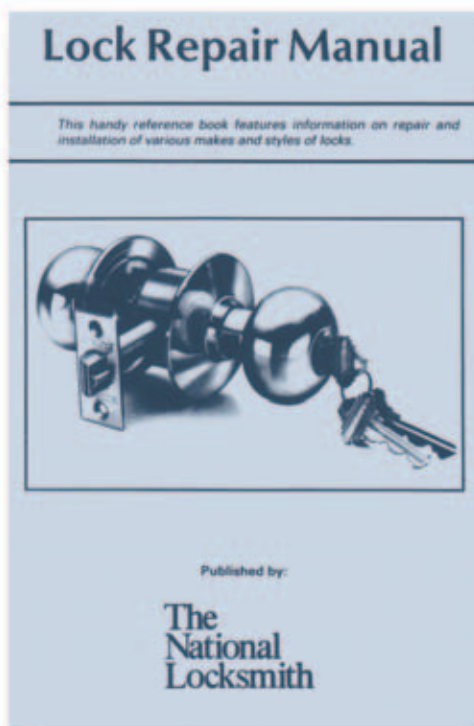
an exact fit for the Major 7" round, lift-out head.

All-in-all, this turned out to be a good opening in spite of a rather unfavorable start. Of course, the biggest problem was getting to the point where I could work on the safe to begin with. That necessitated removing doors and shelves from the cabinet that overhung the safe and replacing them when the job was completed. The good part of removing the doors was that I was able to charge the customer for that work also. So, in spite of Lady Luck being on break and Murphy doing his thing,

the actual opening after the prep work only took about twenty minutes.

I just wish they'd install these safes in a more sanitary, better lighted area. But then think how boring it would be to open a floor safe without having to battle the creepies and crawlies and slip and slide on a well greased floor

*The opening procedure shown here is just one of many presented in Jake Jakubowski's new book "The Fifteen Minute Safe Opening Technique" published by National Publishing and available through The National Locksmith. **NL***



Lock Repair Manual

Here, under one cover you have a tremendous amount of lock servicing information. Next time you run into a problem chances are you'll find the answer in the Lock Repair Manual.

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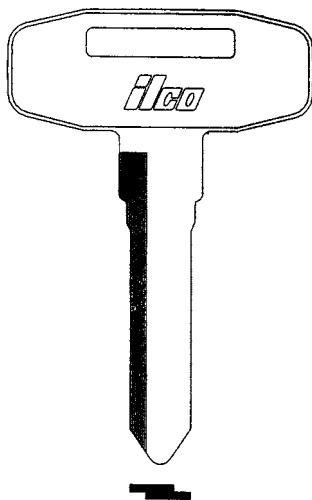


#LRM - 1

KEY CODES

The HPC 1200CMB and
1200PCH code cards for
this code series are
between pages 18 & 19

Fuso Trucks 8100-9113, part 1



Manufacturer: Fuso

Code Series: 8100-9113

Key Blanks: Curtis: FS-1,
Errebi: MIT10R, Fuki: M340,
Ilco: FU2, Ilco EZ: FU2, JMA:
MIT-11D, Lotus: MTI17,
Orion: MS19L, R Clover:
FM340, Silca: MIT9A, Taylor:
FU2

Number of Cuts: 8

M.A.C.S.: 2

Key Gauged: Tip 2

Center of First Cut: .907

Cut to Cut Spacings: .098

Cut Depth Increments:
.032

Spacings: 1 - .907, 2 -
.809, 3 - .711, 4 - .612, 5 -
.514, 6 - .415, 7 - .317, 8 -
.222

Depths: 1 = .315, 2 = .283,
3 = .252

HPC 1200CMB

Code Card: N/A

Jaw: A

Cutter: CW-1011

Gauge From: Tip

HPC 1200PCH (Punch):

PCH Card: N/A

Jaw: A

Silca UnoCode

Card Number: 263

HPC CodeMax

DSD #: 254

Jaw: A

Cutter: CW-1011

Curtis No. 15 Code Cutter:

Cam-Set: HD-9

Carriage: FS-1A

Framon #2:

Cuts Start at: .287

Cut to Cut Spacing: .098

Block #: 5

Depth Increments: .030

Cutter: FC9040

Key Clamping Info: Use flip-
up shoulder stop.

A-1 Pack-A-Punch

Quick Change Kit: N/A

Punch: N/A

Die: N/A

ITL 9000 & 950

Manufacturer ID: N/A

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Fuso Trucks 8100-9113, part 1

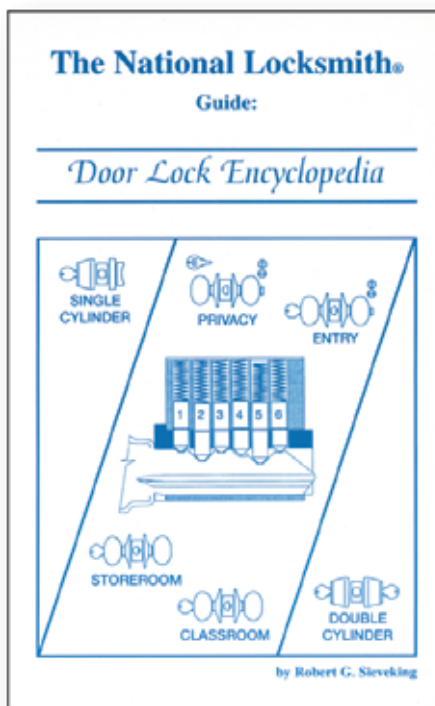
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Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

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#DLE

Fuso Trucks 8100-9113, part 1

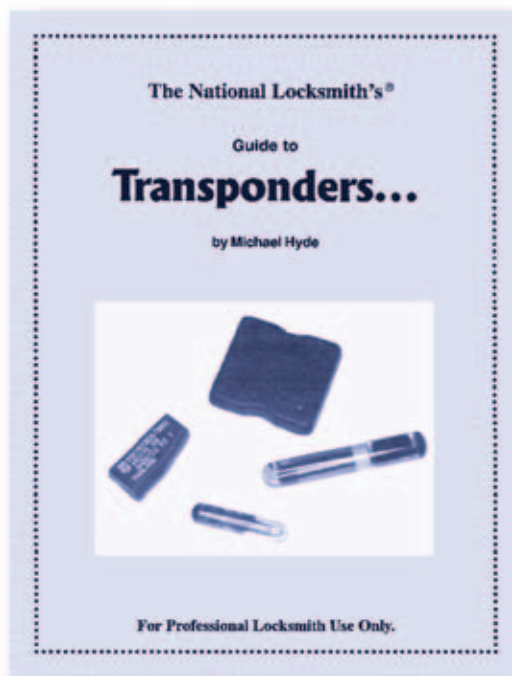
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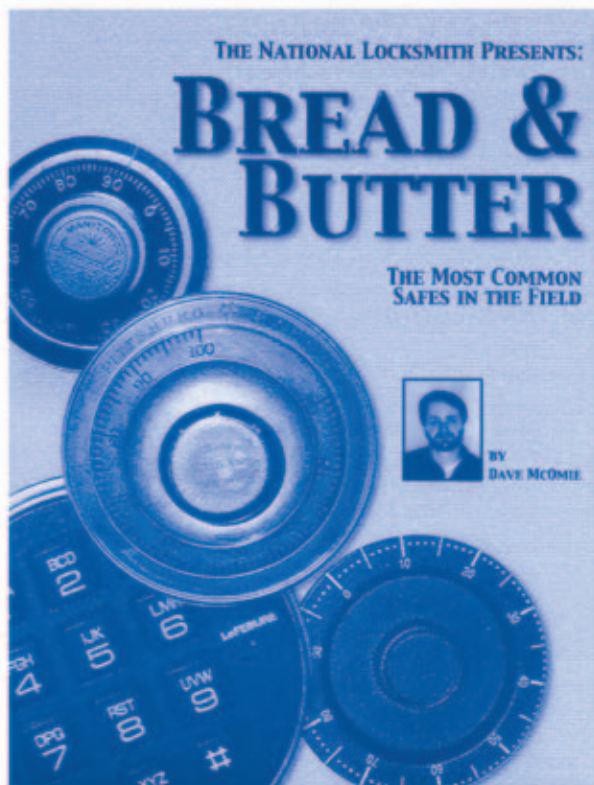
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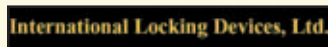
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HPC, Inc.



www.hpcworld.com

International Locking Devices, Ltd.



www.gatelock.com

Jensen Tools



www.jensentools.com

WEB REVIEW

1-800-UNLOCKS

<http://www.1-800-UNLOCKS.com>



On their web site 1-800-UNLOCKS describes the service package they offer to the locksmith which includes territory-protected dispatching services. The site explains how the technology and service functions. Of particular interest may be the Member Directory. There, you can see who is already signed up and in which territories.

If your territory is available, you can reserve it online if you choose to do so. If we were doing so, we'd also be glad for the opportunity to contact some of the current locksmith members, conveniently displayed online.

You can also read a copy of the company's newsletter online. UNLOCKS also seems to sell certain software and tool items, so by exploring the site, you may also come across the occasional bargain.

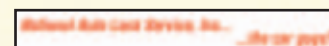


Monaco Lock



www.monacolock.com

National Auto Lock Service, Inc.



www.laserkey.com

Omaha Wholesale Hardware



www.omahawh.com

ROFU International Corp.



www.rofu.com

Security Resources, Inc.



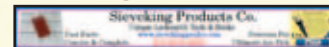
www.techtrainproductions.com

ShatterGard Security Window Film



www.shattergard.com

Sieveling Products Co.



www.sievelingprodco.com

Tech-Train Productions



www.techtrainproductions.com

Major Manufacturing



www.majormfg.com

McDonald DASH Locksmith Supply



www.mcdonalddash.com

KSP



www.iccore.com

KustomKey



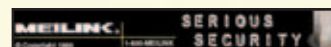
www.kustomkey.com

MAG Security



www.magsecurity.com

Meilink



www.meilinksafe.com

TekTone



www.tektone.net

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**Taking
Industry Products
for a**

TEST DRIVE!

How many times have you been called out to rekey Titan locksets? How many times have you been called out to rekey Titan locksets and the client didn't have a working key? I bet that most of you who rekey Titan locksets can count on one hand the number of times that a customer could provide a rekeying tool to make your job easier.

Of course you can make any working key into a rekeying tool. And if no key exists, to remove the Titan cylinder, you could try picking the lock to the 9-o'clock position, or impression a key and make that into a rekeying tool. But if you're not having a good day picking, your eyes just aren't seeing the little dimples Titan tumblers leave on the key blank or if the lock cylinder is defective and won't respond to picking or impressioning, the BYP2 bypass tool would be a welcome addition to your toolbox.

IN A NUTSHELL:

The BYP2 is drill template with an assortment of aids. It will allow the precise drilling of a Titan knobset cylinder and allow for its quick removal, repair, and reuse.

PRODUCT FEATURES:

The BYP2 kit includes the following:

- The BYP2 Tool, a drill template.
- 3/16" Drill bit.
- Spring punch.
- Six assorted replacement Titan knobset cylinder scalps.
- Detailed and illustrated instruction sheet.

The BYP2 Tool itself comes with a Titan rekeying tool installed onto it. If it should ever break or somehow get

**BYB2
BYPASS
TOOL**

**by Framon
Manufacturing**



lost, simply replace it with another rekeying tool. Likewise, as the replacement cylinder scalps are used, they, as Titan rekeying tools, can be ordered from your favorite distributor.

Tools that you will need to provide are a drill motor and a hook pick.

HOW TO USE:

Insert the BYP2 tool into the lock cylinder. If the cylinder has been installed properly, so that the tumblers drop down into the keyway, the drill hole of the BYP2 tool will be on the lower right hand side.

Chuck the 3/16" drill into your drill motor, insert the drill bit through the BYP2 tool and drill a hole through the face of the cylinder. Drill only about 1/4" deep.

Remove the drill and BYP2 tool from the cylinder.

Look into the hole. The retainer spring should be visible. Dislodge the retainer spring by pushing it out of place using the spring punch provided. The spring will probably fall into the bottom of the knob handle where it can be retrieved later.

Take your hook pick and pry the retainer out of the cylinder and into

the knob where it, too, will fall to be retrieved later.

Remove the cylinder from the lock knob, retrieve the retainer and retainer spring.

You may choose to replace the entire cylinder with a new one, or simply remove the scalp from the drilled cylinder and replace it with a new scalp from the Framon assortment. The new scalp will completely cover the bypass hole. Service the cylinder and put it back into service using standard procedures.

COST:

The list price for the BYP2 is \$60.00. That includes the tool with scalps, drill bit, punch and instructions.

CONCLUSION:

This tool can be a big convenience in your tool box. Even if you attempt other Titan cylinder removal methods first, should they fail, you are going to have to drill. Once drilling becomes the decided opening technique, it's most professional to use a method that will provide a clean, precise and accurate hole. **TNL**

IN SUMMARY:

DESCRIPTION: Tool with assortment of aids, which makes drilling of a Titan lockset cylinder easy and reusable.

PRICE: \$60.00.

COMMENTS: If you've got to drill, it helps you do it right.

TEST DRIVE RESULTS: It does what it's supposed to do. Replacement parts are mostly Titan stock items. The BPY2 fixture itself should never fail.